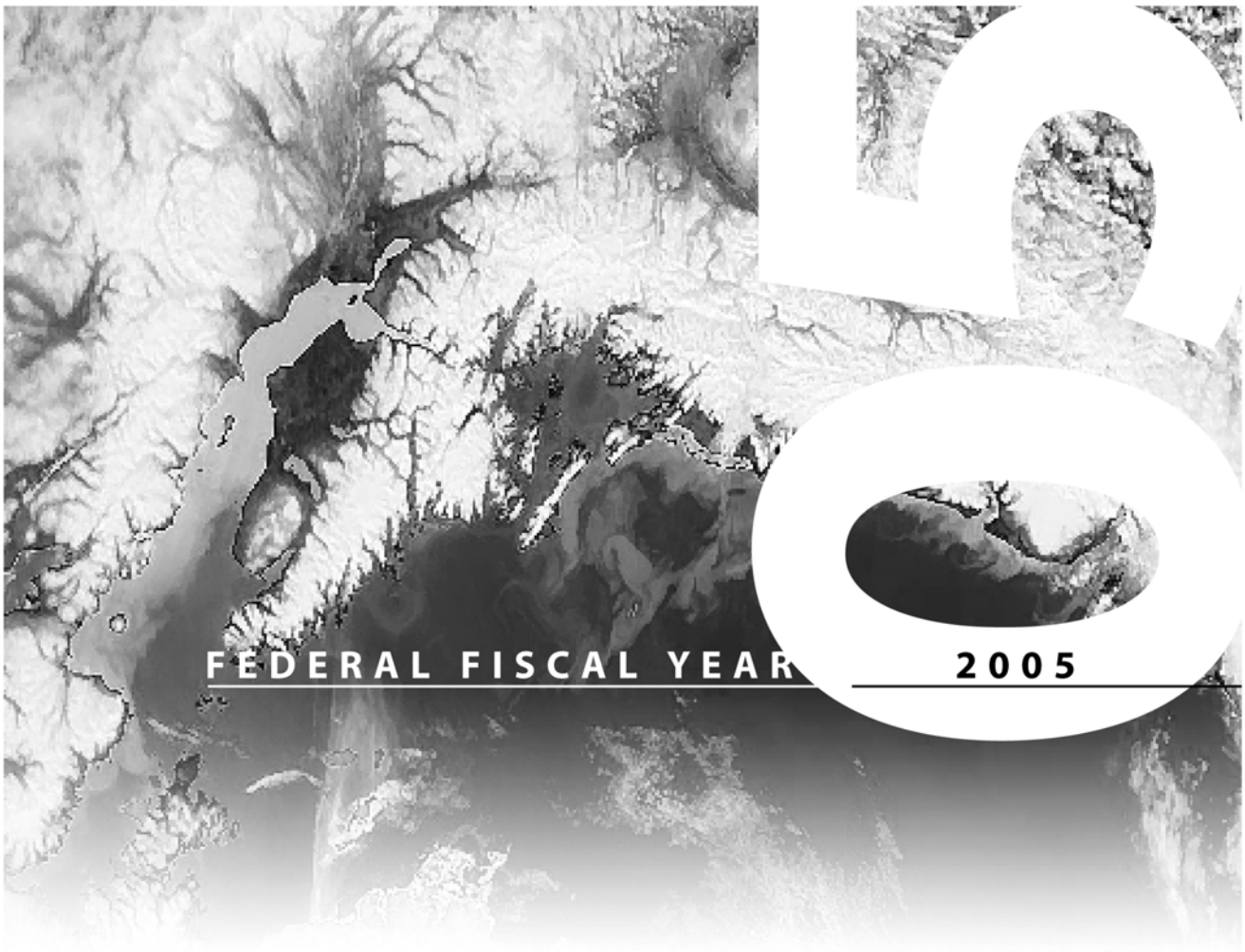
***EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL**



FINAL WORK PLAN

Published March 22, 2007

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FISCAL YEAR 2005

FINAL WORK PLAN

Published March 22, 2007

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Exxon Valdez Oil Spill Trustee Council

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Note – The persons listed above are the current members of the *Exxon Valdez* Oil Spill Trustee Council, and not necessarily those present at the time the FY 2005 Workplan was adopted.

Notice

The abstract of each proposal submitted in response to the FY05 Invitation for Proposals was written by the authors of the proposals to describe their projects. To the extent that the abstracts express opinions about the status of injured resources they do not represent the views of the Executive Director, the Science Director, or other staff of the *Exxon Valdez* Oil Spill Trustee Council, nor do they reflect policies or positions of the Trustee Council.

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Dear Reviewer,

Each year, the *Exxon Valdez* Oil Spill Trustee Council funds activities to restore the resources and services injured by the 1989 *Exxon Valdez* Oil Spill. These funding activities are recorded and published annually in a Work Plan document.

A Final Work Plan was not previously published for FY05. Trustee Council staff consulted transcripts, meeting minutes, court notices, and project files and compiled this FY05 Workplan for publication in FY07.

Annual and final reports, data, and other project information may be accessed via our website at http://www.evostc.state.ak.us.

Sincerely,

Michael Baffrey
Executive Director

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Acknowledgements

We are pleased to acknowledge Trustee Council staff members Carrie Holba, Michael Schlei, Shane St. Clair, Cherri Womac, Barbara Hannah, and Catherine Boerner whose hard work and dedication made the publication of this Work Plan possible. Special thanks to the anonymous scientists who peer reviewed the proposals received and thanks also to the principal investigators and their collaborators for their hard work and dedication to the restoration program.

Michael Baffrey, Executive Director

Kimberly A. Trust, Science Director

Overview of the FY05 Work Plan

This Work Plan comprises multi-year projects submitted in previous years that have received continuous funding by the Trustee Council and new projects funded in FY05 by the Trustee Council. The Work Plan also contains basic information about each proposal submitted and its record of funding recommendations during the review process. This is the final Work Plan publication for FY05.

The Trustee Council received 41 proposals for FY05, of which 21 were funded. Funding recommendations and decisions for all proposals and descriptions of funded proposals are contained in this document.

Total approved funding for new projects in FY05 is $3,319,989.76. There were 28 projects from previous years continuing into FY05, with $2,392,405.00 in total funding.

The Trustee Council has an open, competitive contracting process that is designed to allow proposals from any source to be considered for funding as an external project. The system works well for this purpose as demonstrated by the fairly even distribution of funding across the home institutions of the principal investigators of external projects.

Continuing Projects in FY05

Project #	Principal Investigator	Project Title (abbr.)	FY05 Funding	First Year Funded
040774	Ballachey	Oil Exposure in Nearshore Vertebrate Predators	$150,500.00	FY04
040775	Ballachey	Lingering Oil and Sea Otters	$206,700.00	FY04
040624	Batten	A CPR-Based Plankton Survey	$135,200.00	FY04
040635	Bishop	Top-down and Bottom-up Processes	$164,030.00	FY04
040620-2	Bodkin	Lingering Oil and Sea Otters	$26,200.00	FY04
040699	Cokelet	AK Marine Highway System Ferries	$185,900.00	FY04
040210	Crumley	Youth Area Watch	$126,400.00	FY04
040772	Day	Sediment Quality Survey	$57,200.00	FY04
040702	Eckert	Natural Variability in the Nearshore	$17,500.00	FY04
040471	Fall	Status of Subsistence Uses	$25,600.00	FY04
040703	Finney	Marine-Terrestrial Linkages	$80,154.00	FY04
040126	Fries	Habitat Protection and Acquisition Support	$12,400.00	FY04
040639	Goldman	Ecosystem Parameters in GOA	$56,100.00	FY04
040706	Heintz	Energy Allocation and Salmon Carcasses	$42,300.00	FY04
040703-A	Honnold	Marine-derived Nutrients on Sockeye Salmon	$82,400.00	FY04
040708	Irvine	Lingering Oil on Boulder-Armored Beaches	$17,200.00	FY04
040666	Konar	Natural Geography in Shore Areas	$17,713.00	FY04
040649	Mann	Reconstructing Sockeye Populations	$90,400.00	FY04
040290	Nelson	Hydrocarbon Database	$22,200.00	FY04
040614	Okkonen	Monitoring Program in the NE Pacific Ocean	$30,366.00	FY04
040620-1	Rice	Lingering Oil: Population Status	$61,000.00	FY04
040740	Rice	Lingering Oil: Contaminant Inputs	$130,100.00	FY04
040610	Schneider	Kodiak Archipelago Youth Area Watch	$63,000.00	FY04
040725	Thorne	Seafood Waste Discharge	$111,692.00	FY04
040726	Walker	Marine Derived Nutrients	$153,400.00	FY04
040340	Weingartner	Alaska Coastal Current	$81,748.00	FY04
040670	Willette	Dynamics of the Alaska Coastal Current	$68,000.00	FY04

Project #	Principal Investigator	Project Title (abbr.)	FY05 Funding	First Year Funded
040712	Woody	Nutrient-Based Resource Management	$177,002.00	FY04
FY05 Continuing Project Funding Total			**$2,392,405.00**	

New Projects in FY05

Project Number	Principal Investigator	Project Title (abbr.)	FY05 Funding	FY06 Funding	FY07 Funding	FY08 Funding	FY09 Funding	FY10 Funding
050757	Adams	Pink Salmon Survival Models	$93,700.00	$0.00	$0.00	$0.00	$0.00	$0.00
050743	Baird	Connecting with Coastwalk	$28,900.00	$20,300.00	$11,900.00	$0.00	$0.00	$0.00
050750	Bodkin	GEM Nearshore Monitoring Plan	$227,300.00	$104,400.00	$0.00	$0.00	$0.00	$0.00
050777	Esler	Harlequin Duck Exposure to EVO	$39,000.00	$0.00	$0.00	$0.00	$0.00	$0.00
050100	EVOS Administration	Administration, Science Management and Public Information	$860,898.63	$0.00	$0.00	$0.00	$0.00	$0.00
050250	EVOS Administration	Project Management	$255,500.00	$0.00	$0.00	$0.00	$0.00	$0.00
050455	EVOS Administration	Data Management	$156,977.53	$0.00	$0.00	$0.00	$0.00	$0.00
050550	EVOS Administration	ARLIS	$134,365.75	$0.00	$0.00	$0.00	$0.00	$0.00
050630	EVOS Administration	Scientific Management under GEM	$387,807.31	$0.00	$0.00	$0.00	$0.00	$0.00
050630-A	EVOS Administration	NOS Grant Funding	$248,400.00	$0.00	$0.00	$0.00	$0.00	$0.00
050749	Hoover-Miller	Harbor Seal Monitoring	$97,200.00	$130,300.00	$82,300.00	$0.00	$0.00	$0.00
050751	Irons	Marine Bird Abundance Surveys	$163,600.00	$32,700.00	$0.00	$0.00	$0.00	$0.00
050742	Matkin	Killer Whales in PWS/Kenai Fjords	$20,500.00	$22,300.00	$23,800.00	$0.00	$0.00	$0.00
050778	Michel	Oil Remediation Technologies	$49,100.00	$0.00	$0.00	$0.00	$0.00	$0.00
050758	Moffitt	SEA Pink Salmon Survival Model	$18,900.00	$0.00	$0.00	$0.00	$0.00	$0.00
050769	Otis	Temporal Stability of Fatty Acids	$67,700.00	$89,400.00	$25,100.00	$0.00	$0.00	$0.00
050794	Rice	Herring Populations: An Updated Synthesis	$101,240.54	$30,783.56	$0.00	$0.00	$0.00	$0.00
050759	Rosenberg	Harlequin Duck Populations Dynamics	$39,900.00	$0.00	$0.00	$0.00	$0.00	$0.00
050764	Saupe	ShoreZone Mapping - Kodiak	$201,300.00	$201,900.00	$0.00	$0.00	$0.00	$0.00
050763	Short	Monitoring of Anthropogenic Hydrocarbons	$58,900.00	$58,900.00	$58,900.00	$0.00	$0.00	$0.00
050765	Willette	Salmon Smolt Monitoring	$68,800.00	$65,900.00	$67,000.00	$0.00	$0.00	$0.00

Project Number	Principal Investigator	Project Title (abbr.)	FY05 Funding	FY06 Funding	FY07 Funding	FY08 Funding	FY09 Funding	FY10 Funding
FY05 New Project Funding Totals			$3,319,989.76	$756,883.56	$269,000.00	$0.00	$0.00	$0.00

Total Approved Funding for Continuing Projects in FY05: $2,392,405.00

Total Approved Funding for New Projects in FY05: $3,319,989.76

Total Approved Funding in FY05: $5,712,394.76

FY05 Proposal Funding Recommendations and Decisions

Project Number	Principal Investigator	Project Title (abbr.)	Total Requested	FY05 Approved	Total Approved	STAC	Science Director	PAC	Executive Director	Trustee Council
050757	Adams	Pink Salmon Survival Models	$93,700.00	$93,700.00	$93,700.00	Fund	Fund	Fund	Fund	**Fund**
050743	Baird	Connecting with Coastwalk	$61,100.00	$28,900.00	$61,100.00	Fund	Fund	Fund	Fund	**Fund**
050750	Bodkin	GEM Nearshore Monitoring Plan	$331,700.00	$227,300.00	$331,700.00	Fund	Fund	Fund	Fund	**Fund**
050752	Brodie	Mineral Creek Trail	$1,444,100.00	$0.00	$0.00	Do Not Fund	Do Not Fund	Do Not Fund	Do Not Fund	**Do Not Fund**
050780	Cherr	Strategies for PWS Pacific Herring	$49,500.00	$0.00	$0.00	Do Not Fund	Do Not Fund	Do Not Fund	Do Not Fund	**Do Not Fund**
050746	Cooper	Community-Based Nutrient Sampling	$285,400.00	$0.00	$0.00	Fund	Fund	Fund	Fund	**Do Not Fund**
050748	Edmundson	Synthesis of Watershed Linkages	$237,000.00	$0.00	$0.00	Fund	Fund	Fund	Fund	**Do Not Fund**
050777	Esler	Harlequin Duck Exposure to EVO	$39,000.00	$39,000.00	$39,000.00	Not Available	Not Available	Not Available	Not Available	**Fund**
050753	Etnier	Holocene Biotic Baselines	$232,700.00	$0.00	$0.00	Do Not Fund	Do Not Fund	Do Not Fund	Do Not Fund	**Do Not Fund**
050100	EVOS Administration	Administration, Science Management and Public Information	$853,700.00	$860,898.63	$860,898.63	Not Reviewed	Not Reviewed	Not Reviewed	Not Reviewed	**Fund**
050250	EVOS Administration	Project Management	$255,500.00	$255,500.00	$255,500.00	Not Reviewed	Not Reviewed	Not Reviewed	Not Reviewed	**Fund**
050455	EVOS Administration	Data Management	$154,600.00	$156,977.53	$156,977.53	Not Reviewed	Not Reviewed	Not Reviewed	Not Reviewed	**Fund**
050550	EVOS Administration	ARLIS	$134,365.75	$134,365.75	$134,365.75	Not Reviewed	Not Reviewed	Not Reviewed	Not Reviewed	**Fund**
050630	EVOS Administration	Scientific Management under GEM	$415,800.00	$387,807.31	$387,807.31	Not Reviewed	Not Reviewed	Not Reviewed	Not Reviewed	**Fund**
050630-A	EVOS Administration	NOS Grant Funding	$248,400.00	$248,400.00	$248,400.00	Not Reviewed	Not Reviewed	Not Reviewed	Not Reviewed	**Fund**
050749	Hoover-Miller	Harbor Seal Monitoring	$305,300.00	$97,200.00	$309,800.00	Fund	Fund	Fund	Fund	**Fund**
050751	Irons	Marine Bird Abundance Surveys	$196,300.00	$163,600.00	$196,300.00	Fund	Fund	Fund	Fund	**Fund**
050793	Kiefer	Status of PWS Pacific Herring	$125,059.47	$0.00	$0.00	Not Available	Not Available	Not Available	Not Available	**Do Not Fund**
050744	Kline	Exchange Between GOA and PWS	$539,900.00	$0.00	$0.00	Do Not Fund	Do Not Fund	No Consensus	Do Not Fund	**Do Not Fund**
050761	Konar	SOP for Long-term Monitoring	$363,500.00	$0.00	$0.00	Fund	Fund	Fund	Fund	**Do Not Fund**
050754	Lees	Climate Change and Human Activities	$427,800.00	$0.00	$0.00	Do Not Fund	Do Not Fund	Do Not Fund	Do Not Fund	**Do Not Fund**

Project Number	Principal Investigator	Project Title (abbr.)	Total Requested	FY05 Approved	Total Approved	STAC	Science Director	PAC	Executive Director	Trustee Council
050755	Logerwell	Productivity of Capelin and Pollock	$212,400.00	$0.00	$0.00	Fund	Fund	Do Not Fund	Fund	**Do Not Fund**
050742	Matkin	Killer Whales in PWS/Kenai Fjords	$66,600.00	$20,500.00	$66,600.00	Do Not Fund	Do Not Fund	No Consensus	Fund	**Fund**
050756	Mazumder	Marine-Derived Nutrients	$513,400.00	$0.00	$0.00	Do Not Fund	Do Not Fund	Do Not Fund	Do Not Fund	**Do Not Fund**
050766	McNutt	GEM Infrastructure	$287,000.00	$0.00	$0.00	Fund	Fund	Fund	Fund	**Do Not Fund**
050760	Merritt	Synthesis of Watershed-marine Linkage	$221,700.00	$0.00	$0.00	Do Not Fund	Do Not Fund	Do Not Fund	Do Not Fund	**Do Not Fund**
050778	Michel	Oil Remediation Technologies	$49,100.00	$49,100.00	$49,100.00	Fund	Not Available	Fund	Fund	**Fund**
050758	Moffitt	SEA Pink Salmon Survival Model	$18,900.00	$18,900.00	$18,900.00	Fund	Fund	Fund	Fund	**Fund**
050769	Otis	Temporal Stability of Fatty Acids	$182,200.00	$67,700.00	$182,200.00	Do Not Fund	Do Not Fund	Do Not Fund	Do Not Fund	**Fund**
050794	Rice	Herring Populations: An Updated Synthesis	$125,085.00	$101,240.54	$132,024.10	Not Available	Not Available	Not Available	Not Available	**Fund**
050759	Rosenberg	Harlequin Duck Populations Dynamics	$39,900.00	$39,900.00	$39,900.00	Fund	Fund	Fund	Fund	**Fund**
050764	Saupe	ShoreZone Mapping - Kodiak	$403,200.00	$201,300.00	$403,200.00	Fund	Fund	Fund	Fund	**Fund**
050768	Schoch	ShoreZone Mapping - PWS	$603,700.00	$0.00	$0.00	Fund	Fund	Fund	Fund	**Do Not Fund**
050745	Schumacher	GEM Infrastructure	$69,900.00	$0.00	$0.00	Fund	Fund	Fund	Fund	**Do Not Fund**
050763	Short	Monitoring of Anthropogenic Hydrocarbons	$176,700.00	$58,900.00	$176,700.00	Fund	Fund	Fund	Fund	**Fund**
050747	Szarzi	Salmon Smolt Abundance	$181,200.00	$0.00	$0.00	Fund	Fund	Fund	Fund	**Do Not Fund**
050767	Vick	ACCOS	$223,300.00	$0.00	$0.00	Do Not Fund	Do Not Fund	Do Not Fund	Do Not Fund	**Do Not Fund**
050762	Weingartner	EVOS Synthesis Offshore	$293,900.00	$0.00	$0.00	Fund	Fund	Fund	Fund	**Do Not Fund**
050770	Weingartner	GEM Synthesis: ACC Habitat	$322,600.00	$0.00	$0.00	Fund	Fund	Fund	Fund	**Do Not Fund**
050779	Weston	Remedial Options for Lingering Oil	$50,000.00	$0.00	$0.00	Do Not Fund	Do Not Fund	Do Not Fund	Do Not Fund	**Do Not Fund**
050765	Willette	Salmon Smolt Monitoring	$201,700.00	$68,800.00	$201,700.00	Fund	Fund	Fund	Fund	**Fund**

Project Number	Principal Investigator	Project Title (abbr.)	Total Requested	FY05 Approved	Total Approved	STAC	Science Director	PAC	Executive Director	Trustee Council
Total Funds Requested and Approved			$11,036,910.22	$3,319,989.76	$4,345,873.32					

Total Number of Proposals Received in FY05: 41

Total Number of New Projects Funded in FY05: 21

Descriptions of New and Continuing Projects in FY05

Project Number: **040774**

Project Title: **Oil Exposure Biomarkers and Population Trends of PWS Marine Vertebrates**

Principal Investigator: Brenda Ballachey

Affiliation: DOI

Disbursing Agency: USGS

Project Location: Prince William Sound

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04:	$178,000.00	**FY05:**	$150,500.00	**FY06:**	$0.00
FY07:	$0.00	**FY08:**	$0.00	**FY09:**	$0.00

Total Funding Approved: $328,500.00

Abstract:
Some of the strongest evidence of continuing effects of lingering oil from the Exxon Valdez oil spill comes from long term monitoring of vertebrate populations and their exposure to hydrocarbons. Population recovery of sea otters remained incomplete as of 2002, and individual sea otters continue to exhibit elevated levels of the Cytochrome P450 1A biomarker in areas where lingering oil deposits are most prominent. Surveys of population size and individual P450 measures of sea otters and marine birds will provide continuing information on population trend and individual exposure to lingering oil.

Scientific and Technical Advisory Committee Comments:
I support funding for this project and view it as an important part of fulfilling the Trustees' obligation to the public to monitor recovery of still injured species.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:
Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:
Not Available

Public Advisory Committee Recommendation: Not Available

Executive Director Comments:
I find this project to be an excellent project. Please consider this my recommendation for funding.

Executive Director Recommendation: Fund

Trustee Council Comments:
Fund (DOL grant).

Trustee Council Decision: Fund

Project Number: **040775**

Project Title: **Lingering Oil and Sea Otters: Pathways of Exposure and Recovery Status**

Principal Investigator: Brenda Ballachey

Affiliation: DOI

Disbursing Agency: USGS

Project Location: Prince William Sound

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $20,500.00	**FY05:** $206,700.00	**FY06:** $34,900.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $262,100.00

Abstract:

Some of the strongest evidence of continuing effects of lingering oil from the Exxon Valdez spill comes from long term monitoring of sea otter populations and their exposure to hydrocarbons. Sea otters in heavily oiled areas of western PWS had not recovered as of 2003. Through 2002, sea otters continued to exhibit elevated levels of the cytochrome P4501A biomarker in areas where lingering oil deposits are most prominent. In 2002/03, sea otters at northern Knight Island were instrumented with radiotransmitters and time-depth recorders. Ongoing monitoring of these individuals is quantifying home ranges relative to known intertidal lingering oil deposits, and when the dive data are retrieved and analyzed we will link foraging behaviors of individual sea otters to oiled shorelines and relate patterns of habitat use to individual variation in cytochrome levels. For FY2005, we propose to conduct surveys of population size and distribution, continue to monitor instrumented sea otters to obtain habitat use and survival information, and obtain an additional sample of cytochrome P4501A. This will allow evaluation of continuing exposure to residual oil, population trends, and the status of recovery of sea otters in western PWS.

Scientific and Technical Advisory Committee Comments:

This is a spectacular project; well conceived and well justified by important questions and concerns over the causes of ongoing exposures of sea otters and continuing failures to recover. The information will be of great interest to the public and the PIs present their results in a form that is nicely prepared and readily interpreted. I see this project as the most important of all the studies of continuing injury supported by the Trustee Council.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Not Available

Executive Director Comments:
I find this project to be an excellent project. Please consider this my recommendation for funding.

Executive Director Recommendation: Fund

Trustee Council Comments:
Fund (DOL grant).

Trustee Council Decision: Fund

Project Number: **040624**

Project Title: **Acquisition and Application of CPR data in the GOA**

Principal Investigator: Sonia Batten

Affiliation: Private Enterprise

Disbursing Agency: NOAA

Project Location: Alaskan Shelf and Gulf of Alaska

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $135,200.00	**FY05:** $135,200.00	**FY06:** $135,200.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $405,600.00

Abstract:

Plankton are a critical link in the marine food chain that respond rapidly to climate change and form the link between the atmosphere and upper trophic levels. Many important marine resources in the GoA are strongly influenced by changes in ocean climate. Recent CPR data have shown significant changes occurring in all plankton communities in the GoA, associated with the recent climate shift. We will continue the acquisition of CPR data in the Gulf of Alaska on the current transect that crosses the ACC and add an additional transect in FY05 that will sample the ACC further 'downstream' and provide baseline, seasonal plankton data for the lower Cook Inlet and it's transition to the Gulf of Alaska. We also propose analysis of data already collected to investigate the links between plankton and juvenile salmon migrations, and the larval distribution of commercially important decapods sampled by the CPR.

Scientific and Technical Advisory Committee Comments:

Batten and Welch, using resources of the Sir Alister Hardy Foundation for Ocean Science (SAHFOS), GEM and NPRB, have been conducting continuous plankton recorder (CPR) studies in the Gulf of Alaska since 1998. Those were initially exploratory, but have been run consistently in a time-series monitoring mode since March 2000. Roughly monthly transects are run through the spring each year from Hinchinbrook Entrance to Long Beach by CPRs towed by oil tankers. In addition, a transect has been run several times in recent years from Vancouver, B. C. to Yokohama. Among other things, the results show (1) the north-south seasonality gradient of the large, particle grazing copepods of the GOA (earlier south, later north), (2) evidence of transport into oceanic waters of coastal zooplankton by recurring (or persistent) eddies along the BC coast, and (3) clear evidence correlating with more coast-bound studies of faunal changes occurring at the apparent pelagic regime shift at the end of the 1990's. Three strong publications have resulted from the work so far, covering those results, and Dr. Batten also has been active in studies and publications on the statistical validity of CPR work generally. Community involvement includes the volunteer observing ship activity itself, and preparation and loading of CPRs by community college personnel in Valdez. The proposal emphasizes the value of zooplankton time series for early identification of regime shifts and other responses of the pelagic ecosystem to climate change. Present funds available to GEM do not justify committing to the expanded transects in FY 05 and 06 in light of need to establish other vessels of opportunity programs. Fund project as written for FY 04 through FY 06 at funding level of FY 04.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Fund

Executive Director Comments:

Past performance of investigators has been exemplary in all respects, and the project is producing information on long-term changes in conditions that affect production of birds, fish and mammals in the Gulf. Responsiveness of investigators to requests for information and reporting deadlines is very good. Present funds available to GEM do not justify committing to the expanded transects in FY 05 and 06 in light of need to establish other vessels of opportunity programs. Possibility is recognized that changes in vessels may occur, and that some changes in routing may be expected as a result. Project is to be conducted with FY 04 objectives and funding levels from FY 04 through FY 06.

Executive Director Recommendation: Fund

Trustee Council Comments:

Approved at November 10, 2003 TC meeting.

Trustee Council Decision: Fund

Project Number: **040635**

Project Title: **Trophic Dynamics of Intertidal Soft-Sediment Communities: Interaction between Top-down and Bottom-up Processes (Renewal, Submitted under the BAA)**

Principal Investigator: Mary Anne Bishop

Affiliation: Private Enterprise

Disbursing Agency: NOAA

Project Location: Southeast Prince William Sound (Orca Inlet) and the Cooper River Delta

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $149,529.00	**FY05:** $164,030.00	**FY06:** $151,390.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $464,949.00

Abstract:

Vast expanses of intertidal sand/mudflats serve as a critical link in the food web of nearshore communities along the southcentral Alaska coastline. The rich abundance of benthic invertebrates residing within the sediments of intertidal flats and the large network of subtidal channels that bisect these flats provide a significant prey resource for numerous species of fish, crabs, birds, and marine mammals. One of the largest expanses of intertidal mud/sand flats occurs in the Copper River Delta and southeastern Prince William Sound (Orca Inlet). Here we propose a large-scale field study that examines the physical/chemical and biological factors that limit and/or regulate invertebrate community dynamics. The largely "bottom-up" approach we propose (physical/chemical parameters – phytoplantkon/epibenthic production – invertebrate production) is balanced by the largely "top-down" focus of a companion project funded by the Prince William Sound Oil Spill Recovery Institute that examines predator dynamics and assesses their role in invertebrate community dynamics. At the completion of this project (FY 06), the results of both projects will be synthesized and a subset of key physical/chemical parameters will be identified for long-term monitoring.

Scientific and Technical Advisory Committee Comments:

This proposal takes advantage of the PWSSC location and complementary funding to develop the 'bottom-up' sampling program to match a 'top-down" project already in place. The proposed sampling is intensive and reasonably extensive in space and time, and it is therefore comparatively expensive. The concept of understanding trophic dynamics from both ends is certainly attractive if, in fact, they meet in the middle. The project will establish a baseline of biodiversity in the habitat. Long-term the project will need to address the sustainability of a monitoring program built around helicopter sampling.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Fund

Executive Director Comments:

The proposal meets an essential GEM objective by continuing research into understanding how to monitor soft sediment nearshore habitats nearby the oil spill affected areas. It is highly leveraged with outside funding and helps develop a desirable partnership with a regional marine lab, PWSSC.

Executive Director Recommendation: Fund

Trustee Council Comments:

Approved at November 10, 2003 TC meeting.

Trustee Council Decision: Fund

Project Number: **040620-2**

Project Title: **Lingering Oil and Sea Otters: Pathways of Exposure and Recovery Status**

Principal Investigator: James Bodkin

Affiliation: DOI

Disbursing Agency: USGS

Project Location: Prince William Sound

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $134,300.00	**FY05:** $26,200.00	**FY06:** $99,700.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $260,200.00

Abstract:

Some of the strongest evidence of continuing effects of lingering oil from the Exxon Valdez oil spill comes from long term monitoring of sea otter populations and their exposure to hydrocarbons. Population recovery remained incomplete as of 2002, and individual sea otters continue to exhibit elevated levels of the Cytochrome P450 1A biomarker in areas where lingering oil deposits are most prominent. Work in progress is quantifying home ranges of sea otters at northern Knight Island relative to known intertidal lingering oil deposits, but relocation sampling limits our ability to link foraging behaviors to oiled shorelines. To address the question of where individuals are foraging relative to lingering oil requires data on foraging depths. In 2003 USGS will be instrumenting 20 of the radio-instrumented sea otters at Knight Island with time-depth-recorders. These instruments will provide accurate information on the proportion of each individuals foraging that occurs in intertidal habitats, the area where known oil deposits remain, for one full year. Surveys of population size and individual P450 measures will provide continuing information on population trend and individual exposure to lingering oil.

Scientific and Technical Advisory Committee Comments:

This is a well thought out proposal for further work on the sea otters around northern Knight Island, Prince William Sound, which are clearly not recovering to their pre-spill numbers. The research plan maps out a clear strategy that will attempt to link biomarker of contaminant exposure, P4501A, with individual behavior, particularly foraging, in contaminated areas of Northern Knight Island. Of particular interest will be the outcome of attempts to link biomarker response in individual animals to their foraging in patches of contaminated prey. This proposal conforms to the strategy of determining if there is a close link between remaining deposits of oil in PWS and population problems of species in the area. While this is a challenging undertaking the investigators have a proven track record with this sort of approach and have shown that they can take the measurements necessary to test the hypotheses. The results are to be prepared for publication in a peer reviewed journal before attendance at the meeting in FY 06. 1. The proposed work is highly relevant to further work on species not recovered from the spill. Therefore, it is responsive to the invitation for FY 04. 2. Technical merit: high. 3. Relevance to management and community involvement is moderate. 4. Qualifications and past performance are both excellent. 5. Defer pending outcome of November workshop.

Scientific and Technical Advisory Committee Recommendation: Defer

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Defer

Executive Director Comments:

The specific requirements for further work on lingering oil need to be further developed during a workshop to be conducted in November 2003. As identified by the STAC, it is important for the preliminary results of the FY 2003 field season to be considered by legal counsel, EVOS staff, advising scientists and the Trustee Council before decisions on funding are made. The exchange between legal, policy and science people will be reported to the Trustee Council before making decisions on what to do in the summer of 2004, which is the last full field season of data that could be fully analyzed before deciding the path to the re-opener. Defer funding decisions pending the outcome of the November workshop.

Executive Director Recommendation: Defer

Trustee Council Comments:

Fund contingent on submittal of overdue report 030585/ Lingering Oil: Bioavailability and Effects to Prey and Predators. Approved at the November 10, 2003 TC meeting. Reports turned in; contingency removed.

Trustee Council Decision: Fund

Project Number: **040699**

Project Title: **Biophysical Observation Aboard Alaska Marine Highway Systems Ferries**

Principal Investigator: Edward Cokelet

Affiliation: NOAA

Disbursing Agency: NOAA

Project Location: Alaska Coastal Current, Prince William Sound

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $171,500.00	**FY05:** $185,900.00	**FY06:** $145,900.00
FY07: $36,475.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $539,775.00

Abstract:

The Alaska Coastal Current flows counterclockwise along the edge of the Gulf of Alaska carrying the river runoff, nutrients and plankton that fuel the productive coastal-marine ecosystem. As seen in satellite images, a strong "chlorophyll front" develops in summer between the nutrient-poor region to seaward and a productive region around Kodiak Island that extends northward to the Kenai Peninsula. Conventional wisdom predicts that the Gulf ecosystem should not be productive because the average wind pattern favors downwelling oceanic conditions that fail to restore nutrients to the sunlit upper layers. The chlorophyll front presents a natural study area over which low and high productivity regions lie in close proximity. The Alaska Marine Highway System ferry M/V Tustumena crosses this front over 280 times each year. We propose to instrument the Tustumena to measure physical and biological oceanographic parameters across the Alaska Coastal Current and in Prince William Sound. This will begin a GEM oceanographic monitoring program in the Gulf that will lead to understanding nutrient replenishment and document ecosystem trends for years to come.

Scientific and Technical Advisory Committee Comments:

This is an excellent response to the GEM request for proposals to use State of Alaska ferries as platforms for collecting environmental observations. It requests a major commitment of funds; however the returns are commensurate with the costs. It should generate a working, robust system and a suite of data from tracks of maximum interest in the GEM target region, the oil spill trajectory. The M/V Tustamena is selected because it makes the maximum number of crossings each year of the ACC. The routes (mostly Kodiak-Homer and Kodiak-Seward) will cross the coastal to oceanic chlorophyll front and salinity gradient. It is proposed to follow, by and large, the recommendations of the PICES 2002 report on engine room instrumentation for VOS. A rather full installation is proposed for the ship's April yard period in 2004. A thermosalinograph to sample at the ship's sea chest is to be purchased and installed and backed up by hull conductance thermometry. Cokelet et al. propose to loan the project fluorometry, transmissometery, colored dissolved matter spectrometry (CDOM) and automated nitrate analysis facilities in the first year, replacing them with project-purchased sensors in later years. Cokelet et al. give evidence of experience dealing with ship operators concerning such installations, a key aspect of such projects worldwide. The STAC recommends that the investigators must accommodate the needs of the AMHS regarding in-ship communication. The proposers need to investigate the status of the meteorologic observations collected by the vessel. A wireless remote system is needed to collect these data. Two revisions are required; the real-time communication and costs should be eliminated from the proposal. The ADCP should be eliminated from this proposal because the information received is not proportional to the cost required. Fund contingent upon revised proposal with reduced instrumentation described above.

Scientific and Technical Advisory Committee Recommendation: Fund Contingent

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Fund Contingent

Executive Director Comments:

Agreement in principle has been reached with the AMHS engineering and operations staff concerned and a memorandum of agreement on the specifics of the project is in process. This agreement and project are historic milestones that provide for highly cost effective monitoring of the coastal environment of Alaska. Revised proposal addressed STAC recommendations.

Executive Director Recommendation: Fund

Trustee Council Comments:

Approved at November 10, 2003 TC meeting.

Trustee Council Decision: Fund

Project Number: **040210**

Project Title: **Youth Area Watch**

Principal Investigator: Bob Crumley

Affiliation: Local Government

Disbursing Agency: ADFG

Project Location: PWS, Kenai Peninsula

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $121,100.00	**FY05:** $126,400.00	**FY06:** $133,200.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $380,700.00

Abstract:

This project links students in the oil spill impacted area with research and monitoring projects funded by the Trustee Council and outside agencies. Youth conduct research identified and delegated by principal investigators who have indicated interest in working with students. The project involves students in the acquisition and monitoring of oceanographic and meteorological data over time. Students also develop a local restoration project, which provides them the skills to participate in community-based science. Youth Area Watch fosters long-term commitment to the goals set out in the restoration plan and is a positive community investment in that process. Participating communities in FY 04-06 will be Chenega Bay, Cordova, Seward, Tatitlek, Valdez, and Whittier.

Scientific and Technical Advisory Committee Comments:

The proposal is not responsive to the invitation even though it does seek community involvement. The proposal is weak in providing any linkages to GEM long term monitoring program. The past restoration projects may or may not be appropriate for GEM monitoring. The proposal seems to contain a large amount of text from the previous restoration-oriented youth area watch proposals with occasional insertions of "GEM." In part, the program is dependent on principal investigators who are interested in working with students rather than focused on GEM goals. Furthermore, there is no indication of whether the student developed projects will relate to GEM. In fact, the proposal states that "students also develop a local restoration project…" It may be time to rework this Youth Area Watch project to make it more responsive to GEM goals and objectives.

Scientific and Technical Advisory Committee Recommendation: Do Not Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Do Not Fund

Executive Director Comments:

The report on approaches to community involvement commissioned by the Trustee Council in FY 2003 will not be available until the end of September 2003. The report is expected to provide the basis for a thorough examination of the role of community involvement in the GEM program to be conducted by the Executive Director during FY 2004. Until that examination is complete funding of community involvement projects will be based on responsiveness to the criteria in the FY 04 Invitation and past and future utility for implementing the GEM program. Unlike the Kodiak Youth Area Watch proposal, the PWS YAW proposal is not well grounded in the principles of the GEM program and shows a lack of understanding of the concepts of the need for community involvement in long-term monitoring programs. Based on the lack of connection to the GEM Science Plan, and the recommendations of the STAC, I cannot support this project. Following a recommendation of the PAC, the PI is invited to join the Executive Director during FY 2004 in exploring ways to re-constitute the PWS YAW program to be responsive to the GEM program, consistent with emerging community involvement guidelines.

Executive Director Recommendation: Defer

Trustee Council Comments:

Approved at the November 10, 2003 TC meeting.

Trustee Council Decision: Fund

Project Number: **040772**

Project Title: **Sediment Quality Survey of Heavily-Oiled Beaches in PWS**

Principal Investigator: Betsy Day

Affiliation: Private Enterprise

Disbursing Agency: ADOL

Project Location: Prince William Sound

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $151,000.00	**FY05:** $57,200.00	**FY06:** $0.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $208,200.00

Abstract:

Recent work by Short et al. (2004) demonstrated that lingering oil is found in subsurface intertidal sediments in 43 of the 91 beaches sampled during the summer of 2001. This proposed research project is directed at understanding potential ecological effects to invertebrate populations resulting from lingering oil in subsurface intertidal sediments. Sediments from five locations containing heavily-oiled subsurface sediments and five nearby reference areas will be collected concurrently with the NMFS continuing lingering oil studies and evaluated for PAHs, sediment toxicity using the mussel larvae bioassay, and benthic community structure. The results will provide information on the potential ecological impacts from lingering subsurface oil and will be evaluated using a weight-of-evidence approach. If this project shows that the heavily-oiled sediments are not causing impacts to benthic invertebrates then it can be assumed that benthic invertebrate populations in moderately or lightly-oiled sediments would not be affected by the lingering oil.

Scientific and Technical Advisory Committee Comments:

I see several weaknesses with this proposal, some serious.
(1) First, the benthic community analysis portion of the study is compromised by low sample replication and a design that does not adequately pair invertebrate samples with associated chemical-sediment samples. Only 5 faunal samples will be analyzed for each oiled and 5 for each control site. This replication is defended by reference to Ferraro et al. (1994), who claim that 4 replicates of such benthic samples are sufficient to achieve adequate power. This reference is applied uncritically and incorrectly here because several factors will vary from sample to sample, most significantly elevation level on the beach; there will be high uncontrolled error variance among the 5 “replicate” samples. Furthermore, because the sampling for PAH concentration and organic content and grain size will only be done from a composite sample from each site, there is no possible way to use those variables as covariates to remove the uncontrolled error variance.
(2) Second, the benthic community analysis portion of the study uses inadequate analytic methodology. The most powerful method of distinguishing patterns in community composition is achieved by Bob Clarke’s nonmetric MDS (multi-dimensional scaling), an ordination procedure. The methods and software have been well developed by IMER in Plymouth and are available as a commercial package. This technique is now universally adopted and accepted as the best tool for achieving powerful discrimination in community ecology. This replaces the old-fashioned t-test contrasts of species numbers, information theoretic index values, and evenness. The PRIMER software package even includes programs that quantify the degree to which various taxa contribute to differences in community composition and programs that allow correlation between independent chemical-physical variables and the biological patterns. This analysis should be part of any community contrast and should even be the centerpiece.
(3) Third, the amphipod sediment bioassay really is an important component of such a study. It provides an endpoint that is growth as well as one that is mortality. Such sublethal impacts have potential to translate into population effects and are important to include. Furthermore, this test involves sediment directly, extends over a longer time frame so approaches chronic exposures, and includes another sensitive phylum, a crustacean. Absent this test, the study is

incomplete and its justification rings hollow.
(4) Fourth, the PIs do not really have much of a publication record in the peer-reviewed literature. I would prefer to see that form of vetting and dissemination of EVOS study results.
Overall evaluation:
I endorse and strongly urge a project like this one. However, this study design needs improvement to address the concerns that I raise before it is conducted. Note that a proper response to my concerns would necessarily increase the costs.

Scientific and Technical Advisory Committee Recommendation: Fund Contingent

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Not Available

Executive Director Comments:

I find this project to be an excellent project. Please consider this my recommendation for funding.

Executive Director Recommendation: Fund

Trustee Council Comments:

Fund (DOL grant).

Trustee Council Decision: Fund

Project Number: **040702**

Project Title: **A Synthesis of Natural Variability in the Nearshore: Can We Detect Change?**

Principal Investigator: Ginny Eckert

Affiliation: Alaskan University

Disbursing Agency: ADFG

Project Location: Alaska (Synthesis)

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $36,300.00	**FY05:** $17,500.00	**FY06:** $0.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $53,800.00

Abstract:

One of the primary goals of the GEM program is to detect anthropogenic changes within the four focal habitats in the Gulf of Alaska; however natural variability in these systems can be so high that it prevents detection of human-induced effects. The goal of this proposal is to synthesize existing data to identify, within the nearshore habitat, environments and species that have less natural variability so that these variables can be included in the GEM monitoring plan. Data will be synthesized from the Gulf of Alaska and across a broad range of geographic areas to identify general characteristics that predict lower levels of natural variability in nearshore marine populations. The principal investigator is well suited to conduct this analysis because she was a coauthor of the current GEM nearshore monitoring plan, and she has conducted extensive analyses of natural population variability in nearshore organisms.

Scientific and Technical Advisory Committee Comments:

This proposal provides a badly needed integrative service. The right person doing the right thing.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Fund

Executive Director Comments:

The project provides synthesis in an important habitat type, the nearshore, at a critical time. The nearshore is closer to establishing a comprehensive monitoring program than other habitat types, so synthesis is particularly important in the nearshore habitat type.

Executive Director Recommendation: Fund

Trustee Council Comments:
Approved at the November 10, 2003 TC meeting.

Trustee Council Decision: Fund

Project Number: **040471**

Project Title: **Update of the Status of Subsistence Uses in Exxon Valdez Oil Spill Area Communities**

Principal Investigator: James Fall

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: Prince William Sound, Kodiak, Kenai Peninsula, and Alaska Peninsula

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $298,700.00	**FY05:** $25,600.00	**FY06:** $0.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $324,300.00

Abstract:

The project will provide information for an update of the status of subsistence uses in the Exxon Valdez Oil Spill area. Subsistence uses are a vital natural resource service that was injured by the spill and has not recovered. The project will be a partnership between the Alaska Department of Fish and Game, the Chugach Regional Resources Commission, the Kodiak Area Native Association, and the Bristol Bay Native Association. In early 2004 local research assistants and department researchers will interview face-to-face approximately 760 households in 14 communities about their subsistence activities in 2003. The questionnaire will be similar to that used in previous rounds of interviews. A planning workshop and data review workshop will be held involving study community representatives. A database with study findings and a final report will be produced. Training of local researchers and capacity building are key goals of the project.

Scientific and Technical Advisory Committee Comments:

The last subsistence survey in spill affected communities was 1998. The project proposes to survey 760 HH in 15 communities related to 2003 subsistence activities. The project would be a collaborative effort between ADF&G, Division of Subsistence, CRRC, KANA, BBNA, and the communities. A key project goal is training local researchers in survey administration and data entry and review. The project design, including goals, sampling and survey methods, data analysis and statistical methods, are sound. The proposal incorporates community involvement in most stages of the project (except data analysis). The schedule is reasonable and the qualifications of the ADF&G Division of Subsistence are high. The proposal is responsive to the invitation (community involvement) and specifically responds to invited proposals under Lingering Oil Effects (collect, analyze and report information about current subsistence uses in a subset of oil spill area communities using methodology that is comparable with previous research results). Fall (ADF&G Division of Subsistence) was the PI for most of the previous research. The proposal is consistent with GEM strategies (incorporate community involvement and local knowledge) and goals (detect change, provide information to facilitate understanding of causes of change). The proposed project is part of a long-term monitoring of subsistence activities in the communities affected by the oil spill and includes both restoration and monitoring goals.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Fund

Executive Director Comments:

In the last survey of subsistence uses in 1998 it was found that this injured service had not recovered to pre-spill levels. A follow-up survey to assess the status of recovery is needed.

Executive Director Recommendation: Fund

Trustee Council Comments:

Approved at the November 10, 2003 TC meeting.

Trustee Council Decision: Fund

Project Number: **040703**

Project Title: **Marine-Terrestrial Linkages in Northern GOA Watersheds: Towards Monitoring the Effects of Anadromous Marine-Derived Nutrients on Biological Production**

Principal Investigator: Bruce Finney

Affiliation: Alaskan University

Disbursing Agency: ADFG

Project Location: Karluk Lake, Spiridon Lake, Kodiak, Alaska

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $79,197.00	**FY05:** $80,154.00	**FY06:** $81,117.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $240,468.00

Abstract:

The proposed project is a comprehensive study examining the role of marine-derived nutrients (MDNs) in the productivity of a sockeye nursery lake ecosystem. The research plan integrates studies of nutrient cycling, primary productivity, zooplankton dynamics, and juvenile sockeye abundance and growth, within a framework of stable isotope natural abundance. The study sites are an ideal pair, very similar in characteristics except for access by spawning salmon (anadromous Karluk Lake and control Spiridon Lake). The project will take advantage of the wealth of previous research including relatively long-term limnological data for both sites. Based on previous work, signals from MDNs are anticipated to be relatively strong, which will help elucidate nutrient pathways. The research design is the first to utilize detailed vertical and temporal sampling of the water column, coupled with measurements of rates of primary productivity, and fully integrated stable isotope analyses, with contemporaneous sampling in a well-matched pair of salmon and control lakes. The overall goal of this project is to provide the framework for designing monitoring projects to detect changes in marine terrestrial linkages in Gulf of Alaska sockeye.

Scientific and Technical Advisory Committee Comments:

This is a proposal to partner with a resource management agency (see Honnold) to understand the influence of marine derived nutrients in a comparison of two watersheds. This proposal covers project design, stable isotope measures and nitrate chemistry, and the partner proposal covers limnology, logistics, and sampling personnel. The proposals together evaluate several indicators of marine linkages across species and two distinct watersheds in close cooperation with a natural resource management agency. The proposal has several unique advantages; 1) a pair of similar lakes with and without apparent marine connections, 2) one lake has very long time series of data on fish abundance and stable isotope levels, 3) both lakes have good baseline data on limnological properties such as nutrients, primary productivity and euphotic volume, and 4) one lake has authoritative peer reviewed publications by one of the PIs that support the basic concepts of the proposal. The proposal would develop a strong partnership between university based researchers and a state agency (ADF&G) that would provide information useful to natural resource managers. State agency has close links to the local community and other government agencies. Prospects are good for learning how to measure and interpret linkages of coastal (oligotrophic) lake systems to the marine environment in the Gulf of Alaska in ways that will have practical applications of very large potential significance.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Not Available

Executive Director Comments:

Proposal provides an important comparison between salmon and non-salmon bearing lakes in the oil spill affected area that is important to establishing GEM watershed monitoring. PI's submitted an e-mail agreeing to participate in a watershed workshop that will be held at the January 2005 GEM meeting, and to present an up-to-date report on progress and participate in comparison and evaluation of methods.

Executive Director Recommendation: Fund

Trustee Council Comments:

Approved at the November 10, 2003 TC meeting.

Trustee Council Decision: Fund

Project Number: **040126**

Project Title: **Habitat Protection and Acquisition Support**

Principal Investigator: Carol Fries

Affiliation: State Of Alaska

Disbursing Agency: ADNR

Project Location: Alaska Department of Natural Resources

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $10,355.00	**FY05:** $12,400.00	**FY06:** $0.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $22,755.00

Abstract:
Not Available

Scientific and Technical Advisory Committee Comments:
Not Applicable

Scientific and Technical Advisory Committee Recommendation: Not Reviewed

Science Director Comments:
Not Applicable

Science Director Recommendation: Not Reviewed

Public Advisory Committee Comments:
Not Applicable

Public Advisory Committee Recommendation: Not Reviewed

Executive Director Comments:
Not Applicable

Executive Director Recommendation: Not Reviewed

Trustee Council Comments:
Not Available

Trustee Council Decision: Fund

Project Number: **040639**

Project Title: **Monitoring Ecosystem Parameters in the Northern GOA**

Principal Investigator: Kenneth Goldman

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: Kachemak Bay, Cook Inlet

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $37,600.00	**FY05:** $56,100.00	**FY06:** $56,000.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $149,700.00

Abstract:

This project will refine long-term monitoring of forage species populations in Cook Inlet, an area representative of ecosystem conditions and changes in the northern Gulf of Alaska. Finfish and shellfish will be sampled annually in May with a small-mesh bottom trawl to determine whether competitive and predatory interactions or different responses to the environment may be favoring the abundance of one species over another. Project funding includes mounting a thermosalinograph on the survey platform to collect surface temperature and salinity data during all fieldwork conducted by the survey vessel throughout the calendar year. Products will include annual reports, presentations at scientific meetings, and a manuscript submission to a peer-reviewed journal. Project data will be also made available to other researchers to facilitate broader ecosystem modeling for the Gulf of Alaska. The study will incorporate community outreach and education involving local science classes in the collection of field data.

Scientific and Technical Advisory Committee Comments:

GEM has an actual monitoring project here to support. There's an old and excellent time series to continue and upgrade. It concerns once commercially important animals (pink shrimp, bottom fish) in a coastal inlet (Kachemak Bay) with well populated (by Alaska standards) shores. The time series shows interannual or, just as likely, interdecadal change in the bottom fauna. Probably the once per year schedule is enough to show interannual changes. The trawling involved does no more habitat harm than a) has long since been done and b) possibly is sustained by current fishing activity, although these points deserve informed review. Station numbers are large enough to generate some statistics and stations are well enough distributed to show aerial variability. The agency that originated the survey cannot justify the resources to sustain it solely as a normal management agency function since stocks of the initial target species, pink shrimp, has declined well below the point of commercial interest. However, providing coastal fishing communities and scientists at management agencies with an early warning of the return of pink shrimp (the possible "crustacean mode" of the ecosystem) would be of considerable value, value that can accrue to GEM's credit. Agency should be encouraged to do anything practical with the samples to generate better insight as to what drives the shrimp-fish switching. Replace the thermosalinograph with station profiling by means of a SeaCat or similar device, such as a simple, self-contained CTD (e.g., the Seabird model is ca. $8K) lowered at each of the many stations before the trawl is shot. If a weight (30# downrigger ball) is suspended 2 m below the CTD, it can be lowered until the weight hits, giving data from very close to the bottom. Over the station grid as a whole this would give a strong characterization of the system hydrography, much better than any number of surface values. Fund contingent on receipt of revised proposal implementing above recommendations.

Scientific and Technical Advisory Committee Recommendation: Fund Contingent

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Not Available

Executive Director Comments:

The project meets GEM needs for data that can be used to detect changes in natural resources in the Gulf of Alaska and to develop an understanding of the factors responsible for that change. It also responds to a GEM mandate to leverage funding through partnerships with existing programs and projects, and represents a reasonable division of financial responsibilities between EVOSTC and ADF&G. It will add value to a long-term trawl survey by providing oceanographic data that can be used to understand changes in the trawl catches due to natural forcing. Revised proposal incorporated peer review comments to substantially improve the value and quality of the oceanographic data to be collected.

Executive Director Recommendation: Fund

Trustee Council Comments:

This project is not pertinent at this time, will reevaluate if funds become available. Defer.

TC approved funding of this project at its March 1, 2004 meeting.

Trustee Council Decision: Fund

Project Number: **040706**

Project Title: **The Influence of Adult Salmon Carcasses on Energy Allocation in Juvenile Salmonids**

Principal Investigator: Ronald Heintz

Affiliation: NOAA

Disbursing Agency: NOAA

Project Location: Kenai Peninsula

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $48,400.00	**FY05:** $42,300.00	**FY06:** $14,000.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $104,700.00

Abstract:

This proposal seeks to examine the effect of adult salmon carcasses on the energy allocation in juvenile salmon. Juvenile salmon allocate energy between the competing demands of growth and energy storage to minimize exposure to predation while forestalling starvation over winter. This proposal will contrast annual energy dynamics in age-0 Dolly Varden from Kenai Peninsula streams with and without salmon carcasses present. Fatty acid analysis will be used to identify marine signal strength and persistence in the lipids of the juveniles. The investigators will combine proximate and lipid class analyses to determine the proportions of their total energy allocated to storage versus structure, and examine how seasonal variation in allocation differs among streams and carcass densities. They also will examine the influence of carcasses on growth rate and the relation between growth and energy allocation.

Scientific and Technical Advisory Committee Comments:

Responds to watershed invitation. Provides novel approach to measuring the effects of MDN on resident freshwater species and juvenile salmon in partnership with other proposal (Walker). The GEM program identifies a need for indicators that show how and when to measure marine-related biological production in watersheds. Results from this study will provide additional information about the efficacy of changes in the intensity of the marine signal and lipid reserves between fall and spring as a tool for monitoring the impacts of marine nutrients on the production and survival of juveniles. Potential direct application to fishery management through understanding of factors contributing to year class strength in resident species (growth and over winter survival). Such a tool would have wide application for management of salmon and salmon spawning habitat in the state.

Scientific and Technical Advisory Committee Recommendation: Fund Contingent

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Not Available

Executive Director Comments:

Proposal provides a desirable resource management dimension to the watershed study of Walker, however outstanding reports from the PI need to be submitted. PI agreed to participate in a watershed workshop that will be held at the January 2005 GEM meeting, and to present an up-to-date report on progress and participate in comparison and evaluation of methods. Fund contingent on receipt of review drafts of all outstanding reports.

Executive Director Recommendation: Fund Contingent

Trustee Council Comments:

Fund contingent on submittal of overdue report 030476/ Effects of Oiled Incubation Substrate on Pink Salmon Reproduction.

Trustee Council Decision: Fund

Project Number: **040703-A**

Project Title: **Monitoring the Effects of Anadromous Marine-Derived Nutrients on Sockeye Salmon**

Principal Investigator: Steven Honnold

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: Kodiak Island, Alaska

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $83,200.00	**FY05:** $82,400.00	**FY06:** $86,800.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $252,400.00

Abstract:

We propose to comprehensively examine the role of MDN in sockeye salmon nursery lake ecosystem productivity by integrating studies of nutrient cycling, primary productivity, zooplankton dynamics, and juvenile sockeye abundance and growth, within a framework of stable isotope natural abundance. The project will take advantage of previous research including relatively long-term limnological data for Karluk Lake on Kodiak Island. We will utilize detailed vertical and temporal sampling of the water column, coupled with measurements of rates of primary productivity, and fully integrated stable isotope analyses, with contemporaneous sampling in a well matched pair of salmon (Karluk) and control (Spiridon) lakes. We propose to determine the extent to which the functioning and productivity of watersheds depends on marine-nutrient inputs and how this marine-terrestrial linkage can be better detected and understood. The overall goal of this project is to provide the framework for designing monitoring projects to detect changes in marine terrestrial linkages in Gulf of Alaska sockeye watersheds.

Scientific and Technical Advisory Committee Comments:

This proposal is from a state agency to partner with university based expertise (see Finney) to understand the influence of marine derived nutrients in a comparison of two watersheds. This proposal covers limnology, logistics, and sampling personnel and the university proposal covers overall project design, stable isotope measures and nitrate chemistry. The proposals together evaluate several indicators of marine linkages across species and two distinct watersheds in close cooperation with a natural resource management agency. The proposal has several unique advantages; 1) a pair of similar lakes with and without apparent marine connections, 2) one lake has very long time series of data on fish abundance and stable isotope levels, 3) both lakes have good baseline data on limnological properties such as nutrients, primary productivity and euphotic volume, and 4) one lake has authoritative peer reviewed publications by one of the PIs that support the basic concepts of the proposal. The proposal would develop a strong partnership between university based researchers and a state agency (ADF&G) that would provide information useful to natural resource managers. State agency has close links to the local community and other government agencies. Prospects are good for learning how to measure and interpret linkages of coastal (oligotrophic) lake systems to the marine environment in the Gulf of Alaska in ways that will have practical applications of very large potential significance.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Not Available

Executive Director Comments:

Proposal provides an important comparison between salmon and non-salmon bearing lakes in the oil spill affected area that is important to establishing GEM watershed monitoring. PI agreed to participate in a watershed workshop, which will be held at the January 2005 GEM meeting, and to present an up-to-date report on progress and participate in comparison and evaluation of methods.

Executive Director Recommendation: Fund

Trustee Council Comments:

Approved at November 10, 2004 TC meeting.

Trustee Council Decision: Fund

Project Number: **040708**

Project Title: **Monitoring Lingering Oil on Boulder-Armored Beaches in the GOA**

Principal Investigator: Gail Irvine

Affiliation: DOI

Disbursing Agency: USGS

Project Location: Kenai Peninsula, Alaska Peninsula

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $71,700.00	**FY05:** $17,200.00	**FY06:** $21,854.50
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $110,754.50

Abstract:

We propose to continue monitoring the persistence and degradation of oil at boulder-armored Gulf of Alaska beaches that have been studied since 1992 and investigate how stability of the boulder armors affects both persistence and weathering. These sites were re-sampled in 1994 and 1999; 2004 would be the next targeted study date. The continued contamination of these sites, arrayed along the Katmai and Kenai Fjords National Park coasts, compromises the aesthetics and wilderness values of some of the most pristine wilderness-coast parklands in the world. The lack of weathering of much of the oil means that the oil, if released, could pose a risk to biota. Subsurface oil persisted at these sites in 1999 with little change in extent or chemical weathering since 1994. Data also suggests that the boulder armors are largely stable. We propose to assess changes in surface and subsurface oiling, chemical weathering of the oil, and stability of the boulder armors. Results will be published.

Scientific and Technical Advisory Committee Comments:

This proposal directly addresses the question of the persistence of oil on armored gravel beaches outside of PWS 15 years after the spill. This survey has been carried out several times at various intervals after the spill. It is important to extend this study one more time to understand the larger geographic picture of oil persistence subsurface in beaches long after the floating oil and oil on beaches has disappeared from view. The extent and degree of oil weathering are both addressed. The reviewer had some suggestions for changes in the proposed work, particularly in the area of geomorphology, which should be addressed before the work is carried out in FY 04. The work also needs to be coordinated with and made consistent with shoreline mapping efforts. Defer contingent on publication of results of past studies and receipt of revised proposal addressing peer reviewer concerns and the recommendation of the November 2003 work shop on lingering oil.

Scientific and Technical Advisory Committee Recommendation: Defer

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Defer

Executive Director Comments:

The specific requirements for further work on lingering oil need to be further developed during a workshop to be conducted in November 2003, and publication of results of past work in this area are needed before this project can proceed.

Executive Director Recommendation: Defer

Trustee Council Comments:

Fund contingent on submittal of overdue report 030656/ Retrospective Analysis of Nearshore Marine Communities Based on Analysis of Archaeological Material and Isotopes. Approved at the November 10, 2003 TC meeting. Reports turned in, contingency removed.

Trustee Council Decision: Fund

Project Number: **040776**

Project Title: **2005 Assessment of Lingering Oil and Resource Injuries from EVOS**

Principal Investigator: Lucinda Jacobs

Affiliation: Private Enterprise

Disbursing Agency: ADOL

Project Location: Integral Consulting, Inc.

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $650,000.00	**FY05:** $0.00	**FY06:** $0.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $650,000.00

Abstract:
An authoritative synthesis of information on the status of injured resources will be produced by an independent panel of scientists. Conclusions with respect to the probable status of injured resources and possible remedies for injured resources will be presented. The natural resources and habitats of Prince William Sound and other Alaskan waters have been studied extensively for the 15 years since the occurrence of the Exxon Valdez Oil spill. The collective data from studies conducted largely by natural resource Trustee scientists suggest that the coastal and marine ecosystems in the oil spill region have not fully recovered; that populations of several species remain impaired; and that continued exposure to persistent, biologically available and toxic Exxon Valdez oil (EVO) might be at least partially responsible. These findings are not without scientific or public controversy. Most recently, for example, Exxon-funded scientists published data suggesting that EVO was neither bioavailable nor toxic, and that the methods used and conclusions reached by NOAA researchers in the lingering oil studies were flawed. A full and complete understanding of the degree to which natural resources are injured and the degree to which that injury is caused by lingering oil is critical to defining the probability and timeframe of resource recovery; the options (if any) for restoration; and the necessity, type, and geographic extent of continued monitoring and research. We propose to conduct a series of evaluations using the available scientific data to provide an independent and comprehensive analysis of recovery status of key resources and define any linkage to residual oil. The overall goal of this work will be to provide information that can be used to better characterize recovery status, better define restoration options, better target future monitoring and research, and more explicitly define when restoration can be considered complete.

Scientific and Technical Advisory Committee Comments:
Not Available

Scientific and Technical Advisory Committee Recommendation: Not Available

Science Director Comments:
Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:
Not Available

Public Advisory Committee Recommendation: Not Available

Executive Director Comments:
Not Available

Executive Director Recommendation: Not Available

Trustee Council Comments:
Not Available

Trustee Council Decision: Fund

Project Number: **040666**

Project Title: **Alaska Natural Geography in Shore Areas: Year 2 of a Census of Marine Life Initial Field Project**

Principal Investigator: Brenda Konar

Affiliation: Alaskan University

Disbursing Agency: ADFG

Project Location: Kodiak Island, PWS and Kachemak Bay

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $248,729.00	**FY05:** $17,713.00	**FY06:** $0.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $266,442.00

Abstract:

This proposal seeks funding to complete the initial nearshore biodiversity surveys that were started in the summer of 2003 in Kodiak Island, Prince William Sound, and Kachemak Bay. These surveys are part of a pole-to-pole latitudinal gradient in macroalgal rocky bottom and seagrass soft bottom habitats that is applying standardized protocols developed under the Census of Marine Life program. In our second year of funding we will resurvey all sites that were sampled in 2003 for temporal resolution and will retrieve the temperature data loggers that were deployed at all sites in 2003 so that physical data can be incorporated for each study site. The project is heavily based on local community involvement for sampling. Expected outcomes are establishment of a biodiversity database for current regional and global comparisons and future long-term monitoring programs, capacity building, and a broad outreach to the public.

Scientific and Technical Advisory Committee Comments:

This proposal seeks funds to complete the initial nearshore biodiversity surveys started in the summer of 2003 in Kodiak Island, Prince William Sound, and Kachemak Bay. The surveys were funded using EVOS funds. The surveys are part of a pole-to-pole latitudinal gradient in macroalgal rocky bottom and seagrass soft bottom habitats that is applying standardized protocols developed under the Census of Marine Life Program. Funding in second year will allow resurvey of all sites sampled in 2003 and incorporate physical data for each study site. The sampling aspects of the surveys have strong local community involvement. The results of this project will establish a biodiversity database for current regional and global comparisons and future long-term monitoring programs, capacity building, and a broad outreach to the public. Fund at level requested originally.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Fund

Executive Director Comments:

The proposal continues a process started in FY 03 for exploring possibilities for nearshore monitoring sites that are conducive to community involvement in terms of the questions addressed and the data collected. Sites were explored and samples collected in FY 03 and analysis and recommendations are expected during FY 04.

Executive Director Recommendation: Fund

Trustee Council Comments:

Approved at the November 10, 2003 TC meeting.

Trustee Council Decision: Fund

Project Number: **040649**

Project Title: **Reconstructing Sockeye Populations in the GOA over the Last Several Thousand Years: The Natural Background to Future Changes**

Principal Investigator: Daniel Mann

Affiliation: Alaskan University

Disbursing Agency: ADFG

Project Location: Prince William Sound, Kodiak, Kenai Peninsula

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $45,000.00	**FY05:** $90,400.00	**FY06:** $0.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $135,400.00

Abstract:
We are reconstructing changes in sockeye salmon abundance over the last 10,000 years using the 15N record left by salmon carcasses in the sediments of spawning lakes. Our research question is: What is the normal variability in sockeye salmon populations in the Gulf of Alaska and how does it relate to climatic changes in the Gulf of Alaska region? Our results provide a much-needed background to monitoring studies within the GEM program and to fisheries managers who are working to preserve and restore natural salmon runs. Results from 2002 and 2003 include two new and unexpectedly complete records of salmon abundance in lakes on the Kenai Peninsula. Both records extend back to the time of regional deglaciation around 10,000 years ago. These new cores provide records of changing 15N that are five times longer than any previous record of salmon-run history. The unexpected length and richness of these new lake-core records have motivated us to request additional funds from EVOS to cover an additional year of full funding followed by a final year of analysis and synthesis.

Scientific and Technical Advisory Committee Comments:
Mann and Finney propose to continue their studies of 15N in sediments in the spawning lakes. They are able to extend the record back 10,000 years. A goal is to establish what is normal salmon abundance and its variability. They propose to compare these sediments with other climate records in an attempt to explain causes of this variability. However, their assumption that the 15N post 1900 reflect the population size is incorrect. Since commercial fishing harvests began, it only reflects changes in salmon escapement. There is concern that because of limited other types of data, the investigators might develop simplified ideas regarding population changes. Since the sediments will remain viable for future analysis it was felt that this work did not require immediate funding.

Scientific and Technical Advisory Committee Recommendation: Do Not Fund

Science Director Comments:
Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:
Not Available

Public Advisory Committee Recommendation: Fund

Executive Director Comments:

Although this proposal is in an area of work that was not invited, it would provide comparative historical data on salmon abundance or salmon escapement levels of use in planning GEM watershed and nearshore studies. Based on the strength of the peer reviews, and the recommendation of the Public Advisory Committee, this study should be done if funds can be found. Issues remain with respect to the budget.

Executive Director Recommendation: Defer

Trustee Council Comments:

This project was funded at a reduced rate due to late funding by the TC (funded at the March 1, 2004 TC meeting). Awaiting revised budget, budget justification and DPD prior to release of funds. Documents have been provided.

Trustee Council Decision: Fund

Project Number: **040290**

Project Title: **The Exxon Valdez Trustee Hydrocarbon Database and Interpretation Service**

Principal Investigator: Bonita Nelson

Affiliation: NOAA

Disbursing Agency: NOAA

Project Location: Entire Spill Area

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $22,200.00	**FY05:** $22,200.00	**FY06:** $22,200.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $66,600.00

Abstract:

This project is an on-going service project providing data and sample archiving services for all samples collected for hydrocarbon analysis in support of Exxon Valdez Oil Spill Trustee Council projects. These data represent samples collected since the oil spill in 1989 to the present and include environmental and laboratory Response (National Resource Damage Assessment - NRDA) and Restoration data. Additionally, we provide interpretive services for hydrocarbon analysis, provide public releases of the database (including FOIA requests), and maintain the hydrocarbon sample archives.

Scientific and Technical Advisory Committee Comments:

This proposal would extend the management of the database that is used to track samples for hydrocarbon analyses and continue to make available interpretive services related to origin of oil and its composition, including the likelihood of toxicity. This project is modest in cost and is needed if the Trustee Council is to continue to investigate possible links between oil remaining in the environment and species that apparently have not recovered from the spill.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Fund

Executive Director Comments:

Fund contingent apon submittal of overdue reports:

•J. Short/J. Rice - 03585/ Lingering Oil: Bioavailability and Effects to Prey and Predators
•J. Short - 00598/ Publication: Resolution of Mixtures Containing Exxon Valdez Oil and Regional Background

Hydrocarbons in Subtidal Sediments
•J. Short - 01599/ Evaluation of Yakataga Oil Seeps as Regional Background Hydrocarbon Sources in Benthic Sediments of the Spill Area
•J. Short - 02195/ Pristane Monitoring in Mussels

Executive Director Recommendation: Fund Contingent

Trustee Council Comments:

Approved at November 10, 2003 TC meeting.

Trustee Council Decision: Fund

Project Number: **040614**

Project Title: **A Monitoring Program for Near-Surface Temp, Salinity, and Fluorescence Fields in the northeast Pacific Ocean: Transition to an Operational Program**

Principal Investigator: Stephen Okkonen

Affiliation: Alaskan University

Disbursing Agency: ADFG

Project Location: N. Gulf of Alaska

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $27,289.00	**FY05:** $30,366.00	**FY06:** $31,455.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $89,110.00

Abstract:

This proposed project responds to the Gulf Ecosystem Monitoring and Research Program invitation category F.2. (Alaska Coastal Current / Collecting physical and biological observations from non-AMHS ships-of-opportunity). Funds are requested to continue (1) the maintenance and operation of a thermosalinograph (TSG) that was installed on the tanker vessel Polar Alaska in July 2002 and (2) the analyses of the collected data. The TSG was originally funded as a pilot project by the EVOS Trustee Council in FY02.

Scientific and Technical Advisory Committee Comments:

Dr. Okkonen and subcontractor Dave Cutchin of Scripps maintain and collect data from a thermosalinograph operating continuously during sea runs on the tanker T/V Polar Alaska transiting from Valdez to alternately San Francisco and Long Beach. Cutchin meets the ships at the south end, consults with the chief and second engineers about concerns regarding the system, copies the data from the hard drive of the dedicated computer and services the system (6 times per year). Okkonen reviews, quality checks and archives the data, updating it on a public web site each operation cycle. Okkonen is also using the data to identify the locations on each passage of specific current features (ACC is discerned as drops in S and T; the shelf-break jet or Alaska stream similarly, and oceanic eddies as extended drops in just salinity). He is comparing these features to sea surface topography from TOPEX-POSEIDON altimetry. Data are transferred to the Batten-Welch CPR project that also operates from the Polar Alaska. An initial fluorometer installation failed, but fluorometry should be available by mid-summer 2003. Sustaining fluorometry is antipated.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Fund

Executive Director Comments:

Past performance of the investigators and the results to date, have established this project as a low cost means of collecting basic physical data in the nearshore and offshore areas that should be of use to the GEM Model when it is operational.

Executive Director Recommendation: Fund

Trustee Council Comments:

Approved at the November 10, 2003 TC meeting.

Trustee Council Decision: Fund

Project Number: **040620-1**

Project Title: **Lingering Oil: Pathways of Exposure and Population Status (ABL)**

Principal Investigator: Stanley (Jeep) Rice

Affiliation: NOAA

Disbursing Agency: NOAA

Project Location: Prince William Sound

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $60,000.00	**FY05:** $61,000.00	**FY06:** $29,100.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $150,100.00

Abstract:

Lingering oil from the Exxon Valdez oil spill remains throughout Western Prince William Sound and appears to have chronic effects on sea otter and sea duck populations in these areas. Studies conducted in 2001-02 have documented the extent of oiling throughout the sound, and as of this writing, we have determined that oil is bioavailable to predators. Bioavailability defines potential for exposure, but is not equal to exposure or significance. In 2003 and 2004, we are determining the significance of lingering oil by quantifying the probability of oil encounters in areas where sea otters and sea ducks have not recovered. Prey and passive samplers collected in 2003 will be analyzed in 2004, and will be supplemented with additional samples in 2004 to meet the needs of the on-going tagging studies of otters and ducks by USGS. With the mechanism of exposure from lower intertidal oil deposits determined, the research theme will move toward the goal of determining the extent and probability of oil exposure in three restricted areas: Herring Bay, Lower Passage, and Bay of Isles. Information gained in this project could aid in the decision process regarding future mitigation, litigation, or clean-up actions.

Scientific and Technical Advisory Committee Comments:

This project is well designed and complementary to the sea otter/sea duck project by Bodkin et al. It is a key component of the strategy the Trustee Council undertook in FY2002 to determine if remaining oil is a significant factor in lack of recovery of some species such as sea otter and sea ducks. The technical merits are high. The proposal is responsive to the invitation with relevance to management and community involvement. The management application is moderate. The qualifications of the PIs are excellent as is their past performance on other EVOS funded projects. Defer funding decision pending outcome of November workshop and disposition of the matter of reports for projects 00396 and 00454.

Scientific and Technical Advisory Committee Recommendation: Defer

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Defer

Executive Director Comments:

The specific requirements for further work on lingering oil need to be further developed during a workshop to be conducted in November 2003. As identified by the STAC, it is important for the preliminary results of the FY 2003 field season to be considered by legal counsel, EVOS staff, advising scientists and the Trustee Council before decisions on funding are made. The exchange between legal, policy and science people will be reported to the Trustee Council before making decisions on what to do in the summer of 2004, which is the last full field season of data that could be fully analyzed before deciding the path to the re-opener. Defer funding decisions pending the outcome of the November workshop.

Executive Director Recommendation: Defer

Trustee Council Comments:

Fund contingent on submittal of overdue reports;
•J. Short/J. Rice - 03585/ Lingering Oil: Bioavailability and Effects to Prey and Predators (Draft submitted for peer review)
•J. Rice – 00454/ Evidence and Consequences of Persistent Oil Contamination in Pink Salmon Natal Habitats (Draft submitted for peer review)
•J. Short - 00598/ Publication: Resolution of Mixtures Containing Exxon Valdez Oil and Regional Background Hydrocarbons in Subtidal Sediments (Draft submitted for peer review)
•J. Short - 01599/ Evaluation of Yakataga Oil Seeps as Regional Background Hydrocarbon Sources in Benthic Sediments of the Spill Area (Draft submitted for peer review)
•J. Short - 02195/ Pristane Monitoring in Mussels (update from project manager 06/09/04: a draft should be submitted 06/10/04)

Trustee Council Decision: Fund

Project Number: **040740**

Project Title: **Lingering Oil: Contaminant Inputs to PWS and CYPIA Induction in Fish - Midterm Lingering Oil Project (DOL Grant)**

Principal Investigator: Stanley (Jeep) Rice

Affiliation: NOAA

Disbursing Agency: NOAA

Project Location: Prince William Sound

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $177,300.00	**FY05:** $130,100.00	**FY06:** $0.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $307,400.00

Abstract:

Recently lingering oil studies have found that Exxon Valdez oil persists, and continued CYP1A induction in sea otters and sea ducks have become the best documented long-term impacts of the spill. Exxon scientists suggest there are many other potential pollutant sources in PWS that confound measurements of CYP1A induction. The project proposed here will definitively assess contributions, if any, from other contaminant sources to contaminant stresses on biota in Prince William Sound (PWS). At a suite of sites, passive sampling devices will be deployed and then analyzed to evaluate their induction potential. Aliquots of concentrated extracts from the samplers will be injected into cultured rainbow trout (Oncorhynchus mykiss), and the induction of cytochrome P450A1A (CYP1A) measured. These measurements would compliment the on-going sea otter studies of FY04, where a final measurement of CYP1A will be made in summer 2004.

Scientific and Technical Advisory Committee Comments:

I am enthusiastic about the value of this project to furthering our understanding of lingering impacts of EVO and distinguishing between oil effects and effects of possible POPs on some fishes. I endorse the methods, with the exception of the concern that I have for inclusion of a calibration process for the injection portion, which may require switching fish species. I would be positive about support even if this calibration process proved impossible.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Not Available

Executive Director Comments:
I find this project to be an excellent project. Please consider this my recommendation for funding.

Executive Director Recommendation: Fund

Trustee Council Comments:
Fund (DOL grant).

Trustee Council Decision: Fund

Project Number: **040610**

Project Title: **Kodiak Archipelago Youth Area Watch**

Principal Investigator: Teri Schneider

Affiliation: Local Government

Disbursing Agency: ADFG

Project Location: Kodiak Archipelago

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $63,000.00	**FY05:** $63,000.00	**FY06:** $63,000.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $189,000.00

Abstract:

The Kodiak Archipelago Youth Area Watch is an ongoing community involvement project designed to engage students in projects with goals aligned with the general restoration efforts of the Trustee Council. Students and site coordinators will conduct interviews with local experts and document TEK, publishing it in a district oral history magazine. Participation of KAYAW adults and students in the annual Academy of Elders/Science Camp will be strongly encouraged. Participants will share their research during annual gatherings. Such participation will serve as another avenue for more tribal members to learn about restoration efforts, scientific monitoring techniques, and occupations related to such work. Students will explore local knowledge as it relates to marine mammal populations, inter-tidal environment, impact of humans on the coastal environment, human use overtime and intergenerational changes and cultural beliefs and practices that may provide insight in scientific studies. The value and implications of TEK will be strongly emphasized throughout the implementation of the KAYAW project.

Scientific and Technical Advisory Committee Comments:

This is a very competent proposal that creates its own activities based on addressing local interests and concerns as they relate to GEM. The types of activities described in the proposal (resource inventory, habitat mapping, ecology, human effects on resources (page 1) are consistent with information needed to be able to design a local monitoring program. The KAYAW has expanded slowly and the proposed work areas (continuing harbor seal data gathering; continuing focus archaeological and natural resources, and working with the nearshore monitoring project conducted by UAF [Dr. Robert Foy]) are a form of monitoring. Furthermore, the project design has monitoring objectives and study procedures. The proposal is responsive to the invitation (continuing community involvement project), is consistent with one of two GEM strategies (incorporate community involvement), and is proactive in moving toward a GEM-style monitoring youth area watch program.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Fund

Executive Director Comments:

The report on approaches to community involvement commissioned by the Trustee Council in FY 2003 will not be available until the end of September 2003. The report is expected to provide the basis for a thorough examination of the role of community involvement in the GEM program to be conducted by the Executive Director during FY 2004. Until that examination is complete, funding of community involvement projects will be based on responsiveness to the criteria in the FY 04 Invitation and past and future utility for implementing the GEM program. The Kodiak Youth Area Watch proposal is well grounded in the principles of the GEM program and shows a keen understanding of the concepts of the roles and needs for community involvement in long-term monitoring programs. The connection to the GEM Science Plan is clear, and the recommendations of the STAC are very positive.

Executive Director Recommendation: Fund

Trustee Council Comments:

Approved at the November 10, 2003 TC meeting.

Trustee Council Decision: Fund

Project Number: **040725**

Project Title: **Impacts of Seafood Waste Discharge in Orca Inlet, PWS**

Principal Investigator: Richard Thorne

Affiliation: Private Enterprise

Disbursing Agency: NOAA

Project Location: Orca Inlet, Prince William Sound

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $72,680.00	**FY05:** $111,692.00	**FY06:** $108,943.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $293,315.00

Abstract:

This proposal brings together several entities with concerns over the impacts of seafood waste discharge into Cordova Harbor (Orca Inlet). The Prince William Sound Science Center (PWSSC) is acting as the facilitator of this effort because of its strategic location and long-term interest in the problem. Primary collaborators are DEC, ADF&G and Cordova seafood processors. Anticipated collaborators include the Native Village of EYAK and the City of Cordova. The proposed research will investigate possible impacts of seafood waste discharge through a series of experiments that will evaluate the nearshore community response to alternate techniques of seafood waste discharge, including different grind sizes and whole carcasses, as well as a pile remediation study. These experiments will not only aid our understanding of the historic impacts, but will form the basis for a more healthy and productive approach to seafood waste recycling. A three-year project is proposed, with the first year devoted to baseline observations and experimental design.

Scientific and Technical Advisory Committee Comments:

This proposal brings together several entities such as the Alaska Department of Environmental Conservation (ADEC), the Alaska Department of Fish and Game (ADFG), Cordova seafood processors, the Native Village of EYAK, and the City of Cordova with concerns over the impacts of seafood waste discharge into Cordova Harbor (Orca Inlet). The research would investigate possible impacts of seafood waste discharge through a series of experiments by evaluating the nearshore community response to alternate techniques of seafood waste discharge. The results of the research would aid the understanding of historic impacts and form the basis for a more healthy and productive approach to seafood waste recycling. The first year of the proposed 3-year project will be devoted to baseline observations and experimental design. This collaborative project addresses two invitation categories: community involvement and nearshore. The study would also provide information for similar concerns in southeastern Alaska and complement ongoing ADEC studies in Ketchikan. The PI should consider application of these findings to the wider GEM area.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Fund

Executive Director Comments:

The proposal would add the dimension of human effects to the development of the nearshore monitoring program, and it is a good match of GEM objectives to the management of an important pollution concern for coastal communities throughout the oil spill affected area.

Executive Director Recommendation: Fund

Trustee Council Comments:

Approved at November 10, 2003 TC meeting.

Trustee Council Decision: Fund

Project Number: **040726**

Project Title: **Presence and Effects of Marine Derived Nutrients (MDN) in Stream, Riparian and Nearshore Ecosystems on Southern Kenai Peninsula, Alaska**

Principal Investigator: Coowe Walker

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: Southern Kenai Peninsula

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $169,000.00	**FY05:** $153,400.00	**FY06:** $149,700.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $472,100.00

Abstract:

Marine derived nutrients and carbon (MDN) delivered by salmon and other anadromous fishes are considered important drivers in riverine ecosystems, providing nutrients and food to these land-based food webs. However, we know little about the relative value of MDN compared to other nutrient and carbon sources (e.g., watershed-derived) in the Gulf of Alaska region. The objectives of this study are to develop a water chemistry proxy for monitoring salmon returns, and to track and measure MDN effects in stream, riparian and nearshore environments, on the southern Kenai Peninsula. We will accomplish this by linking stream chemistry, marine isotope signatures, marine terrestrail fatty acid ratios, and key animal and plant community density, growth, and lipid measures along a gradient from river mouth to headwaters in key watersheds. This study will be integrated with related studies proposed in other areas of southcentral Alaska to develop a broader retinal understanding and widely-applicable long-term monitoring program for the GEM region.

Scientific and Technical Advisory Committee Comments:

The proposal provides clear and workable approaches to collecting the data necessary to meet the needs identified for watersheds in the invitation. It would provide geographic and physical contrasts between two (anadromous and non-anadromous) peat wetlands watersheds on the southern Kenai Peninsula, and it would establish a partnership with a resource management agency (ADFG) for operation of a salmon counting weir. Measures C, N, and S stable isotopes, and evaluates full suite of water quality measures containing N, P, C in resident fish, invertebrates and plants. Incorporates direct and re-mineralization routes of C and N through food webs. The proposal would have the ability to compare streams with and without salmon, and to look at production of salmon in a system where escapements are counted (Anchor River tributary). Measures of longitudinal distributions of MDN from headwaters to mouth would provide an important contrast. Measures of proxies cover water chemistry parameters and fatty acid levels and ratio of omega-3 fatty acids to total fatty acids in animals. Excellent ties to local community through Citizens Environmental Monitoring Program, (CEMP is EPA/ADEC funded). Prospects are good for learning how to measure and interpret linkages of coastal peat wetland stream systems to the marine environment in the Gulf of Alaska in ways that will have practical applications of very large potential significance. Fund contingent on a letter from the Principal Investigators agreeing to participate in a watershed workshop to be held at the January 2005 GEM meeting, and to present an up-to-date report on progress and participate in comparison and evaluation of methods.

Scientific and Technical Advisory Committee Recommendation: Fund Contingent

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Not Available

Executive Director Comments:

Proposal provides a resident stream fish dimension to the watershed habitat type. PI has agreed to participate in a watershed workshop which will be held at the January 2005 GEM meeting, and to present an up-to-date report on progress and participate in comparison and evaluation of methods.

Executive Director Recommendation: Fund

Trustee Council Comments:

Approved at the November 10, 2003 TC meeting. An additional $18.8K was approved at the March 1, 2004 TC meeting for operation of the weir on the N. Fork of Anchor River.

Trustee Council Decision: Fund

Project Number: **040340**

Project Title: **Long-Term Monitoring of the Alaska Coastal Current**

Principal Investigator: Thomas Weingartner

Affiliation: Alaskan University

Disbursing Agency: ADFG

Project Location: Gulf of Alaska Shelf offshore of Resurrection Bay

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $80,387.00	**FY05:** $81,748.00	**FY06:** $64,950.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $227,085.00

Abstract:

This proposal is for monitoring temperatures, salinities, and spring bloom characteristics of the Alaska Coastal Current (ACC) from a mooring and monthly sampling at station GAK 1 near Seward. The project builds upon the 33-year record at this station. These data can predict ACC (baroclinic) transport anomalies so this variable is obtained indirectly. The results will be examined with respect to variations in terrestrial runoff and atmospheric heat fluxes. We will provide daily maps of satellite scatterometer-derived winds, make these available to the public via a website, and archive them for future analyses. All variables affect biological production at higher trophic levels. The results have value for interpreting continuous plankton recorder data to be obtained from ferries under GEM sponsorship, evaluating performance of numerical ocean circulation models, and conducting retrospective analyses of biological productivity. Logistics costs are shared with the NSF-NOAA funded GLOBEC program.

Scientific and Technical Advisory Committee Comments:

Weingartner proposes to continue the 33 year hydrographic time series, maintain a mooring and provide daily wind estimates for the northern Gulf of Alaska. He will also measure fluorescence and light transmission to estimate the primary production. He suggests that it will only be the spring bloom estimates rather than the entire year due to potential biological fouling of the instruments. The GAK1 measurements are vital for the determination of ocean climate conditions. The proposal is well written and Weingartner is productive. The basic work should be funded. The inclusion of the daily wind field processing is questionable. Why would mariners be interested in today's (prior) winds rather than the predictions that are provided by the NWS? Providing real time winds is not a primary function of this program or an academic institution. Also, why are nitrate sensors not included in the mooring? These should prove to be more valuable than quasi-real-time winds. The leverage provided for this project is excellent and the requested costs are modest. Why isn't the request for multiple years rather than just one year? Recommend continued funding this project. This project has repeatedly proved its value to the scientific community in the Northern Gulf of Alaska. Recommend funding at this level for FY04, FY05 and FY06.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Fund

Executive Director Comments:

The project has proven to be a cost effective partnership to enhance the value of one of the oldest time series of marine environmental data in the North Pacific. Proposal is to be funded at this level with these objectives for three years, FY 2004 - 2006.

Executive Director Recommendation: Fund

Trustee Council Comments:

This project was approved at the November 10, 2003 TC meeting for three years. Brett Huber, Project Manager, is getting a revised budget to include all years funded. An additional $4,905 was approved at the Feb. 9, 2004 TC meeting (equipment calculation error on 1st approved budget).

Trustee Council Decision: Fund

Project Number: **040670**

Project Title: **Monitoring Dynamics of the Alaska Coastal Current and Development of Applications for Management of Cook Inlet Salmon**

Principal Investigator: T. Mark Willette

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: Cook Inlet

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04:	$89,800.00	**FY05:**	$68,000.00	**FY06:**	$27,900.00
FY07:	$0.00	**FY08:**	$0.00	**FY09:**	$0.00

Total Funding Approved: $185,700.00

Abstract:

This project will use a vessel of opportunity to collect physical oceanographic and fisheries data along a transect, across lower Cook Inlet from Anchor Point to the Red River delta. Logistical support for the field sampling will be provided in part by the Alaska Department of Fish and Game which has chartered a vessel annually to fish along this transect each day during July providing in season projections of the size of salmon runs returning to the inlet. The work proposed here is for long-term monitoring of oceanographic conditions in Cook Inlet as part of these ongoing fisheries surveys. Investigators will also use physical oceanographic data collected by the project to improve management of Cook Inlet salmon through improved in season salmon run projections. Several hypotheses regarding effects of changing oceanographic conditions on salmon migratory behavior will be tested. The oceanographic data collected by the project will also provide for valuable validation of remote sensing products, improved understanding of ocean dynamics in lower Cook Inlet, and a highly powerful statistical evaluation of the oil spill risk analysis models.

Scientific and Technical Advisory Committee Comments:

Contributions to the central GEM goal (recurring ecosystem status evaluations) will be continuation of the salmon stock data series for Cook Inlet. ADCP results will be collected on a schedule that is not necessarily coordinated with the tidal periodicities of flow in the Inlet. No scheme for “de-tiding” the data is proposed, but even if one is found, the weak, low-frequency signals of ACC flow may be difficult to extract from the transect series. CTD data may help to define water sources, however an explicit scheme for doing that needs to be laid out. Coordination with inlet CODAR (shore-based radars measuring nearsurface currents) programs is proposed, but availability of CODAR systems in ’04-’06 is stated to be quite uncertain. Willette, a fisheries biologist for ADFG, and Pegau, a physical oceanographer at Kachemak Reserve, are competent and will get what can be gotten from the data. A proposal to run more transects for just physical data in some other months (October, January, April?) would give the data set some comparisons, a basis for writing up the results.

The important component of this proposal is testing hypotheses of the effect of the physical oceanography on the salmon fisheries of Cook Inlet. It remains to be established if the Anchor Point July transect is where long-term monitoring for GEM is desired. However, while this evaluation is occurring, the project should provide some short-term payoff by directly relating real-time physical oceanographic conditions and movement of fish for management purposes. Continuous fixed-point measurements of physical data are needed to go with the observations proposed to be collected in this proposal. These continuous physical data should assist with de-tiding data. Funding half of the vessel charter is a significant funding policy question. Is this a normal agency expense that should be paid for as part of this project? Fund contingent on addressing STAC technical concerns and resolution of policy issue on funding transect.

Scientific and Technical Advisory Committee Recommendation: Fund Contingent

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Not Available

Executive Director Comments:

The proposal builds physical data collection into a long established (1979) fishing transect at Anchor Point in Cook Inlet. Anchor Point is at the biologically critical juncture of Gulf marine waters and glacially silted freshwater runoff. Proposal also provides an important link between salmon fishery management and physical oceanography that is expected to provide substantial benefits to economic development and enhanced recreational fishing opportunities in the oil spill affected areas of Cook Inlet. Funding a portion of the transect expenses is a fair distribution of responsibilities in our partnership with ADF&G which changes the uses and configuration of the vessel from a fishing charter to a joint fishing and oceanography charter. A revised proposal addressing STAC technical concerns was received.

Executive Director Recommendation: Fund

Trustee Council Comments:

11/10/04 TC meeting action (Not pertinent at this time - Defer). This project was funded by the Trustee Council at its February 9, 2004 TC meeting.

Trustee Council Decision: Fund

Project Number: **040712**

Project Title: **Research for Nutrient-Based Resource Management in Watersheds and Estuaries**

Principal Investigator: Carol Ann Woody

Affiliation: DOI

Disbursing Agency: USGS

Project Location: Prince William Sound

Project Type: Continuing

Funding Approved by Fiscal Year:

FY04: $173,216.00	**FY05:** $177,002.00	**FY06:** $152,632.00
FY07: $0.00	**FY08:** $0.00	**FY09:** $0.00

Total Funding Approved: $502,850.00

Abstract:

Proposal offers a strategy for developing a monitoring program for watersheds that would form the basis for a comprehensive understanding of water quality and biological production in relation to natural and human induced variability. Sampling strategy effectively leverages existing funding from Oil Spill Recovery Institute and North Pacific Research Board to minimize costs. Data derived on isotopic signatures of C, N, and S will be invaluable in designing monitoring throughout the GEM area. Important new information would be produced on effects of watersheds on productivities of nearshore environments, the feasibility of using sulfur as indicator of marine related effects, and the relation of MDN to freshwater residence time in juvenile salmon.

Scientific and Technical Advisory Committee Comments:

Proposal offers a clear strategy for developing a monitoring program for watersheds that would form the basis for a comprehensive understanding of water quality and biological production in relation to natural and human induced variability. Sampling strategy effectively leverages existing funding from Oil Spill Recovery Institute and North Pacific Research Board to minimize costs. Data derived on isotopic signatures of C, N, and S will be invaluable in designing monitoring throughout the GEM area. Important new information would be produced on effects of watersheds on productivities of nearshore environments, the feasibility of using sulfur as indicator of marine related effects, and the relation of MDN to freshwater residence time in juvenile salmon. Proposal makes good case that the management implications of information for salmon and salmon-dependent economies and wildlife are very strong for ADF&G, NMFS, and USFWS. On the negative side the proposal has some serious shortcomings in the presentation of hypotheses and methods. Hypotheses need to be re-written to remove tautologies, maps of sampling localities need to be provided, and field methods for sampling and estimation of abundance need to be clearly explained. Fund contingent on receipt of revised proposal addressing peer reviewer concerns.

Scientific and Technical Advisory Committee Recommendation: Fund Contingent

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Not Available

Executive Director Comments:

The project provides information on terrestrial-marine linkages in the nearshore and riverine environments that is essential to planning watershed monitoring. Revised proposal addressed peer reviewer concerns. The principal investigators agreed to participate in a watershed workshop that will be held at the January 2005 GEM meeting, and to present an up-to-date report on progress and participate in comparison and evaluation of methods.

Executive Director Recommendation: Fund

Trustee Council Comments:

Approved at the November 10, 2003 TC meeting.

Trustee Council Decision: Fund

Project Number: **050757**

Project Title: **Implementing the Pink Salmon Survival Model: Phase I - Project Development**

Principal Investigator: Kenneth Adams

Affiliation: Private Enterprise

Disbursing Agency: NOAA

Project Location: Prince William Sound

Project Type: New

Funding Approved by Fiscal Year:

FY05: $93,700.00	**FY06:** $0.00	**FY07:** $0.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $93,700.00

Abstract:

Funds are requested to plan the implementation of a numerical model of pink salmon survival within a framework of long-term monitoring and resource prediction. The plan will be prepared by an interdisciplinary team. PWSFRAP will coordinate workshops, internet assets, conferencing, report and proposal preparation and submission and will facilitate information exchange between the resource dependent community and the planners. The resulting plan will identify a team of implementers, a design and schedule for field sampling, modeling activities and parameterization, data management and information protocols stipulated by GEM. It is anticipated that this planning effort will be followed by a multi-year implementation phase. When fully implemented, the pink salmon modeling program will become a functional component of the GEM whole-ecosystem model and responsive to questions of pink salmon production, harvest, management, and enhancement. This proposal is a companion to the interrelated ADF&G proposal (Moffitt: Management Applications: Implementing the Pink Salmon Survival Model-Tagging technology).

Scientific and Technical Advisory Committee Comments:

The proposal is recommended for funding. It is highly responsive to the invitation in both modeling and fisheries management applications. It is exemplary of meaningful community involvement, as it originates from non-scientists who reside in Cordova, an oil spill-affected community. It is supportive of the science plan as a contribution to development of the GEM whole ecosystem fisheries model. It was rated highly by non-STAC peer reviewers for technical merit and the abilities of the PIs. Its relevance to fisheries management is that it would provide a solid basis for managing pink salmon fisheries and for forecasting adult returns one year in advance. The PIs are community based commercial fishermen who have long promoted community involvement through workshops and distribution of information and collection of public feedback. The project would provide products relevant to all five GEM goals (detect, understand, inform, solve, predict) using methods and approaches that are consistent with several GEM programmatic goals in that it would leverage Council funds through using information resources from local organizations such as the Prince William Sound Science Center, ADF&G, and other ongoing monitoring work funded by other entities; it involves other government agencies, non-governmental organizations, stakeholders, policy makers, and the general public in a collaborative process to achieve the mission and goals of GEM; it increases community involvement and uses local knowledge for the purposes of enhancing long-term stewardship of living marine resources; and it facilitates application of GEM research and monitoring results to benefit conservation and management of marine resources. The costs are reasonable to the tasks at hand and are necessary to insure participation of all necessary parties.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Concur with the STAC recommendation. This project is an integral part of the modeling program area (McNutt, Schumacher, Adams, and Moffitt). The Adams project will continue the process of using data from past restoration projects to generate understanding of the status of injured species in Prince William Sound. In addition the Adams project will lead to salmon fishery management products (survival estimates, abundance forecasts). The modeling program area is the highest priority among all program areas. Modeling is the process of turning basic data into useful information for managers, policy makers, and other consumers. Modeling assembles the building blocks provided by data-generating projects in the other program areas (four habitats, lingering oil, and synthesis) into an understandable explanation of the causes of changes in injured species and other bird, fish, and mammal species.

Science Director Recommendation: Fund

Public Advisory Committee Comments:

Concur with the STAC and Executive Director recommendations.

Public Advisory Committee Recommendation: Fund

Executive Director Comments:

Concur with STAC and Science Director recommendations. This project provides essential support for a modeling project that is a top priority for the GEM Program.

Executive Director Recommendation: Fund

Trustee Council Comments:

Not Available

Trustee Council Decision: Fund

Project Number: **050743**

Project Title: **Connecting with Coastwalk: Linking Shoreline Mapping with Community-based Monitoring**

Principal Investigator: Steve Baird

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: Kachemak Bay

Project Type: New

Funding Approved by Fiscal Year:

FY05:	$28,900.00	**FY06:**	$20,300.00	**FY07:**	$11,900.00
FY08:	$0.00	**FY09:**	$0.00	**FY10:**	$0.00

Total Funding Approved: $61,100.00

Abstract:

The project will evaluate and merge citizen-generated biological and human impact data collected over 20 years of an annual Kachemak Bay CoastWalk shoreline survey with high-resolution mapping of the physical structure of the nearshore environment in Kachemak Bay that nests geographically within ShoreZone mapping. Evaluation of data and data collection protocols and the geographic alignment of CoastWalk zones with ShoreZone units and KBRR's shoreline segments will occur during Year 1. Citizen-based data collection efforts aligned with GEM nearshore monitoring SOPs and methods will be pilot-tested in Kachemak Bay. During Year 2, a Kachemak Bay community/scientist workshop will be held to further integrate and synthesize local information into the Kachemak Bay Research Reserve GIS and to apply the GIS results to the selection of nearshore monitoring sites for community-based monitoring. Piloting will continue, with emphasis on involvement of K-12 teachers and students. During Year 3, nearshore monitoring data collection and data management will be further refined and a website and data entry interface developed. This project will advance the development of a community-based nearshore monitoring program for the GEM program.

Scientific and Technical Advisory Committee Comments:

The proposal is recommended for funding. The proposal is responsive to the invitation (shore zone mapping of the nearshore target area, integrate community involvement) and is consistent with GEM strategies (incorporate community involvement and local knowledge) and goals (detect change, provide information to facilitate understanding of causes of change). The project provides a link between nearshore community-based information and long-term monitoring applicable to GEM. The project will build on an existing (19 year) citizen-based, volunteer monitoring program (that is presumably responsive to community concerns) and combine it with a GEM-funded GIS mapping project to assess the utility of this method for future GEM monitoring.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Concur with the STAC recommendation.

Science Director Recommendation: Fund

Public Advisory Committee Comments:

Concur with the STAC and Executive Director recommendations.

Public Advisory Committee Recommendation: Fund

Executive Director Comments:

Concur with STAC recommendation. The project is exemplary of exploring cost effective approaches to collecting baseline data in environments that are vulnerable to oil spills.

Executive Director Recommendation: Fund

Trustee Council Comments:

Not Available

Trustee Council Decision: Fund

Project Number: **050750**

Project Title: **Implementation of the GEM Nearshore Monitoring Plan: Site Selection, Standard Operating Procedures, and Data Management**

Principal Investigator: James Bodkin

Affiliation: DOI

Disbursing Agency: USGS

Project Location: PWS, Kenai Peninsula, Cook Inlet, Kodiak

Project Type: New

Funding Approved by Fiscal Year:

FY05: $227,300.00	**FY06:** $104,400.00	**FY07:** $0.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $331,700.00

Abstract:

Gulf of Alaska nearshore habitats support populations that are economically, ecologically, and socially valuable to humans. Because of their importance to humans, detecting change in nearshore habitats, both natural and anthropogenic, plays a prominent role in the GEM plan. Over the past several years several steps have been taken toward implementing the GEM Nearshore Monitoring Program. These include a series of workshops to identify nearshore resources and sampling strategies, development of specific monitoring designs with cost estimates, and the creation of a spatially explicit GOA nearshore science bibliography. We are proposing to build upon the monitoring designs offered by Bodkin and Dean (2003) by selecting specific sites, developing and testing sampling protocols, and developing and testing a data management plan specific for long term sampling within the framework of existing monitoring designs. Upon completion of these tasks the Nearshore GEM monitoring plan should be well prepared for implementation.

Scientific and Technical Advisory Committee Comments:

This proposal is recommended for funding. This proposal builds on the Bodkin and Dean project "Alternative sampling designs for nearshore monitoring" (G-030687), the results of which were presented to the STAC in January 2004. The conclusions of that study were that three time and space scales exist on which nearshore monitoring could be conducted: (1) synoptic – few variables everywhere, i.e., remotely and quickly sample large areas; most balanced sampling, (2) extensive – many variables few places, i.e., broad range of measurements at few sites across large area; detects large scale changes, and (3) intensive – mid range of variables over moderate range of sites, i.e., fewer measurement, more areas, smaller spatial coverage; detect small scales changes. The objectives of this proposal would produce the following essential products: (1) process for selecting monitoring sites, (2) standard operating procedures (SOP) for nearshore monitoring, and (3) database management system. In addition the project would test SOP and the database management system, and involve a wide range of community members in the process. This proposal is extremely well written and is in direct response to the nearshore invitation to select monitoring sites and develop SOPs. Furthermore, the incorporation of lingering oil sites is included.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Concur with the STAC recommendation.

Science Director Recommendation: Fund

Public Advisory Committee Comments:

Concur with STAC and note that it is expected that this project will provide an inventory of all who are working on projects in a given area.

Public Advisory Committee Recommendation: Fund

Executive Director Comments:

Concur with the STAC recommendation.

Executive Director Recommendation: Fund

Trustee Council Comments:

Not Available

Trustee Council Decision: Fund

Project Number: **050777**

Project Title: **Quantifying Temporal Variation in Harlequin Duck Exposure to Exxon Valdez Oil**

Principal Investigator: Dan Esler

Affiliation: DOI

Disbursing Agency: USGS

Project Location: Prince William Sound.

Project Type: New

Funding Approved by Fiscal Year:

FY05: $39,000.00	**FY06:** $0.00	**FY07:** $0.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $39,000.00

Abstract:

Measurements of cytochrome P4501A (P450) have proven to be extremely useful for quantifying the degree of exposure to hydrocarbons following the EVOS for a number of vertebrates, including harlequin ducks. However, the ability to document interannual changes in exposure for harlequin ducks is eroded by dramatic differences in average P450 values between years, both for oiled and unoiled areas. There is no reasonable biological explanation for these widely differing values among years and we speculate that these are the result of differences within the laboratory. Because the P450 data are so critical for documenting changes in oil exposure over time, as well as for linking individual survival with oil exposure, we propose to concurrently reanalyze all archived HADU samples. We propose to conduct these analyses at the same time samples from March 2005 are being analyzed (this is already funded by EVOSTC). This approach will result in a database in which all samples can be compared both within and between years, allowing for confident interpretation of the level of exposure in oiled areas and changes in that exposure over time.

Scientific and Technical Advisory Committee Comments:

Not Available

Scientific and Technical Advisory Committee Recommendation: Not Available

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Not Available

Executive Director Comments:

Not Available

Executive Director Recommendation: Not Available

Trustee Council Comments:
Not Available

Trustee Council Decision: Fund

Project Number: **050100**

Project Title: **Administration, Science Management, and Public Information**

Principal Investigator: EVOS Administration

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: Trustee Council Office

Project Type: New

Funding Approved by Fiscal Year:

FY05: $860,898.63	**FY06:** $0.00	**FY07:** $0.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $860,898.63

Abstract:

Project 050100 provides overall support for public and community involvement and administration of the Trustee Council programs through the Trustee Council Office. This includes funding support for the staff working at the direction of the Trustee Council through the Executive Director, as well as public involvement efforts including the participation of the 20-member Public Advisory Committee (PAC).

Scientific and Technical Advisory Committee Comments:

Not Applicable

Scientific and Technical Advisory Committee Recommendation: Not Reviewed

Science Director Comments:

Not Applicable

Science Director Recommendation: Not Reviewed

Public Advisory Committee Comments:

Not Applicable

Public Advisory Committee Recommendation: Not Reviewed

Executive Director Comments:

Not Applicable

Executive Director Recommendation: Not Reviewed

Trustee Council Comments:

Not Available

Trustee Council Decision: Fund

Project Number: **050250**

Project Title: **Project Management**

Principal Investigator: EVOS Administration

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: Trustee Council Office

Project Type: New

Funding Approved by Fiscal Year:

FY05: $255,500.00	**FY06:** $0.00	**FY07:** $0.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $255,500.00

Abstract:

Project management supports those Trustee agencies that administer and/or implement EVOS projects on behalf of the Trustee Council. Project mangers act as intermediaries between EVOS science and administrative staff, project principle investigators and Trustee Council members. Project Managers provide input on the program science plan, Invitation, Work plan, EVOS policy and procedures. Project managers coordinate activities between principal investigators and the Trustee Council Office, reviewing project progress and expenditure activity, assisting in the development of project proposals, and tracking project reports, assisting with review of EVOS program process.

Scientific and Technical Advisory Committee Comments:

Not Applicable

Scientific and Technical Advisory Committee Recommendation: Not Reviewed

Science Director Comments:

Not Applicable

Science Director Recommendation: Not Reviewed

Public Advisory Committee Comments:

Not Applicable

Public Advisory Committee Recommendation: Not Reviewed

Executive Director Comments:

Not Applicable

Executive Director Recommendation: Not Reviewed

Trustee Council Comments:

TC wants a survey done for each agency to see how much of time staff for each Trustee Council member spends on EVOS related issues. Additional money will be given to this project to compensate agency staff time.

Trustee Council Decision: Fund

Project Number: **050455**

Project Title: **Data Management**

Principal Investigator: EVOS Administration

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: Trustee Council Office

Project Type: New

Funding Approved by Fiscal Year:

FY05: $156,977.53	**FY06:** $0.00	**FY07:** $0.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $156,977.53

Abstract:

The Trustee Council uses goals established for the GEM program (Gem Program Document, 2002) that make data management a top priority. Data management has been modeled on the GEM Program criteria because all aspects of the Trustee Council programs and operations depend on the data management principles established for GEM. In order for the information from Trustee Council projects to be useful, it must be made accessible through effective data management. A number of the five goals of the GEM Program rely on effective data management. For example, the "inform" goal states that the GEM program will provide integrated and synthesized information to the public, resource managers, industry and policy makers in order for them to respond to changes in natural resources. The "solve" goal requires developing tools, technologies, and information that can help resource managers and regulators improve management of marine resources and address problems that may arise from human activities. The "detect" goal also has a data management and communication aspect, as GEM is asked to serve as a sentinel (early warning) system by detecting annual and long-term changes in the marine ecosystem, from coastal watersheds to the central Gulf of Alaska.

Scientific and Technical Advisory Committee Comments:

Not Applicable

Scientific and Technical Advisory Committee Recommendation: Not Reviewed

Science Director Comments:

Not Applicable

Science Director Recommendation: Not Reviewed

Public Advisory Committee Comments:

Not Applicable

Public Advisory Committee Recommendation: Not Reviewed

Executive Director Comments:

Not Applicable

Executive Director Recommendation: Not Reviewed

Trustee Council Comments:
Not Available

Trustee Council Decision: Fund

Project Number: **050550**

Project Title: **Alaska Resources Library and Information Services (ARLIS)**

Principal Investigator: EVOS Administration

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: ARLIS

Project Type: New

Funding Approved by Fiscal Year:

FY05: $134,365.75	**FY06:** $0.00	**FY07:** $0.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $134,365.75

Abstract:

Project 040550 represents the Trustee Council's contribution to Alaska Resources Library and Information Services (ARLIS). ARLIS serves as the central access point for information generated through the Trustee Council restoration process and the GEM program. In addition, ARLIS is the public repository for reports and other materials generated from and related to the cleanup, damage assessment, and restoration efforts following the Exxon Valdez oil spill (EVOS). ARLIS supports the research efforts and information needs of the Trustee Council Office, principal investigators, natural resources professionals, and the general public. The Council has contributed budgetary support for ARLIS since the library was established in 1997. ARLIS is providing services that were previously provided through the Oil Spill Public Information Center (OSPIC). With the exception of Fiscal Year 1994, this activity has historically been funded under the Public Information, Science Management and Administration Budget (Project /100). Funding as a separate project began in Fiscal Year 2001, as Project 01550.

Scientific and Technical Advisory Committee Comments:

Not Applicable

Scientific and Technical Advisory Committee Recommendation: Not Reviewed

Science Director Comments:

Not Applicable

Science Director Recommendation: Not Reviewed

Public Advisory Committee Comments:

Not Applicable

Public Advisory Committee Recommendation: Not Reviewed

Executive Director Comments:

Not Applicable

Executive Director Recommendation: Not Reviewed

Trustee Council Comments:
Not Available

Trustee Council Decision: Fund

Project Number: **050630**

Project Title: **Scientific Management Under GEM**

Principal Investigator: EVOS Administration

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: Trustee Council Office

Project Type: New

Funding Approved by Fiscal Year:

FY05: $387,807.31	**FY06:** $0.00	**FY07:** $0.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $387,807.31

Abstract:

This project will provide direction and management for all aspects of the science programs at the Exxon Valdez Oil Spill Trustee Council. Although tasks are integrated to the extent possible, for the sake of description there are seven basic tasks in the EVOSTC science programs in decreasing order of time allotted: 1) Providing scientific information for the conclusion of the court settlement phase of restoration through implementation of the Gulf of Alaska Ecosystem Monitoring and Research (GEM) program (including continuing effects of oil on injured resources), 2) peer review of proposals and work products, 3) management and integration of project information, 4) reporting, 5) personnel supervision, 6) office systems development, and 7) external scientific liaison. GEM implementation is based on the GEM Program Document (GPD) and Science Plan as adopted by the Trustee Council. GEM implementation requires keeping the science plan current, periodically developing an invitation for proposals consistent with the science plan, and describing the work underway in the work plan. Peer review operations support the operation of the Scientific and Technical Advisory Committee (STAC), three GEM subcommittees (habitat, data management and lingering oil), conduct workshops as needed for specific topics under development, and provide peer review recommendations on proposals and reports of contractors. Management and integration of project information requires working with contractors to understand scientific progress, making connections among projects to aid synthesis and modeling, and review and approval of Annual Reports and Final Reports. Reporting provides for presentations on the work plan to the STAC, PAC, agency liaisons, executive director, Trustee Council, and others. Personnel supervision covers the science coordinator,data systems manager and project manager. Office systems under development and/or maintenance include the peer reviewer data base, the registry of proposals, web based entry of peer reviewer comments and other external communications, databases of publications supported by the Trustee Council and GEM citations, and the AOOS server. External scientific liaison supports the voluntary peer review system, develops and maintains consistency, eliminates redundancy, and leverages available funding through coordination with key organizations: American Fisheries Society, North Pacific Marine Science Organization (PICES), Alaska Ocean Observing System (AOOS), U.S. Global Ocean Observing System (GOOS) Steering Committee, North Pacific Research Board (NPRB), Ocean.US, and Alliance for Coastal Technologies. Changes in operations anticipated for FY 2005 are a very small and limited FY 2006 Invitation for Proposals, a focus on the injured species list, a revision of the science plan, and developing the FY 2007 invitation.

Scientific and Technical Advisory Committee Comments:

Not Applicable

Scientific and Technical Advisory Committee Recommendation: Not Reviewed

Science Director Comments:
Not Applicable

Science Director Recommendation: Not Reviewed

Public Advisory Committee Comments:
Not Applicable

Public Advisory Committee Recommendation: Not Reviewed

Executive Director Comments:
Not Applicable

Executive Director Recommendation: Not Reviewed

Trustee Council Comments:
Fund at a reduce rate without contribution to AOOS ($32,000).

Trustee Council Decision: Fund

Project Number: **050630-A**

Project Title: **NOS Grant Funding**

Principal Investigator: EVOS Administration

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: Trustee Council Office

Project Type: New

Funding Approved by Fiscal Year:

FY05: $248,400.00	**FY06:** $0.00	**FY07:** $0.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $248,400.00

Abstract:
See 050630.

Scientific and Technical Advisory Committee Comments:
Not Applicable

Scientific and Technical Advisory Committee Recommendation: Not Reviewed

Science Director Comments:
Not Applicable

Science Director Recommendation: Not Reviewed

Public Advisory Committee Comments:
Not Applicable

Public Advisory Committee Recommendation: Not Reviewed

Executive Director Comments:
Not Applicable

Executive Director Recommendation: Not Reviewed

Trustee Council Comments:
Not Available

Trustee Council Decision: Fund

Project Number: **050749**

Project Title: **Harbor Seal Monitoring in Southern Kenai Peninsula Fjords**

Principal Investigator: Anne Hoover-Miller

Affiliation: Private Enterprise

Disbursing Agency: ADFG

Project Location: Kenai Penninsula

Project Type: New

Funding Approved by Fiscal Year:

FY05: $97,200.00	**FY06:** $130,300.00	**FY07:** $82,300.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $309,800.00

Abstract:

This proposal supports an existing remote video monitoring system in Aialik Bay, a tidewater glacial fjord. This system is used to observe harbor seals in glacial ice habitats and the impacts of vessels on seals. Haulout activity, numbers of seals, vessel impacts on seals, ambient behaviors of undisturbed seals, glacial activity, ice conditions, weather, and other events affecting seals are recorded daily. Seed funding is requested to test prototype digital still cameras at land-based haulouts in Day Harbor for documenting seals in a fjord lacking tidewater glaciers. Integrations of the remote monitoring into GEM; provides ecological measures of conditions at the heads of fjords that will complement long-term oceanographic monitoring in adjacent waters. This study is augmented by ancillary studies and support from the ASLC and National Park Service through a partnership in the Oceans Alaska Science and Learning Center, the University of Alaska, Fairbanks, Alaska National Maritime Wildlife Refuge System, and Port Graham Corporation.

Scientific and Technical Advisory Committee Comments:

The proposal is recommended for funding. The proposal is a good fit with two areas of the Invitation in that it is 1) responsive to Nearshore in developing techniques and SOP for nearshore monitoring in the area of human effects, and 2) it responds directly to needs in lingering oil by linking an injured species to development of the nearshore monitoring program. The proposal also is a good match to the Science Plan, because it addresses an identified gap, measuring the effect of human activities on the nearshore environment. It also proposes to add an important set of physical habitats as yet unaddressed within the Nearshore program, fjords with and without tidewater glaciers. Arguments for the possibility of low cost long-term nearshore monitoring of harbor seal haul out sites and human activities into the GEM program are compelling; however, only testing and experience will provide proof of concept. Technical methods and statistical approaches are straight forward, although the proposed remote still cameras are admittedly experimental. There is very good potential for management application through identifying steps that can be taken to further reduce the impact of vessels on wildlife in the fjords. That the proposal addresses management concerns of the National Park Service and the Port Graham Corporation is evidenced by their collaboration in this work. Community involvement is strong. The proposal speaks to the first two of GEM's five major goals (detect and understand) in that it offers to identify the degree and longevity of perturbations caused by humans on harbor seals within the context of natural variation. It proposes to do so by taking observations on harbor seals and human activities that can be combined with long-standing (i.e. GAK1) and newly developing (i.e. Chiswell mooring, GLOBEC LTOP, NSF (mesoscale) studies and Tustumena ferry box) physical time series in the region. The proposal is strong in that it leverages funds for ongoing monitoring work and personnel and it involves a substantial number of other entities. The personnel are highly qualified local scientists. The STAC expects the data management plan for this project to address digitization of the data, reduction of the data, and long-term archiving of the data.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:
Concur with the STAC recommendation.

Science Director Recommendation: Fund

Public Advisory Committee Comments:
Concur with the STAC recommendation.

Public Advisory Committee Recommendation: Fund

Executive Director Comments:
Concur with the STAC recommendation.

Executive Director Recommendation: Fund

Trustee Council Comments:
Not Available

Trustee Council Decision: Fund

Project Number: **050751**

Project Title: **Surveys to Monitor Marine Bird Abundance in PWS During Winter and Summer 2005**

Principal Investigator: David Irons

Affiliation: DOI

Disbursing Agency: USGS

Project Location: Prince William Sound

Project Type: New

Funding Approved by Fiscal Year:

FY05: $163,600.00	**FY06:** $32,700.00	**FY07:** $0.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $196,300.00

Abstract:

This project will conduct small boat surveys to monitor abundance of marine birds and sea otters (Enhydra lutris) in Prince William Sound, Alaska during March and July 2005. Seven previous surveys have monitored population trends for >65 bird and 8 marine mammal species in Prince William Sound after the Exxon Valdez Oil Spill. We will use data collected in 2005 to examine trends from summer 1989-2005 and from winter 1990-2005 by determining whether populations in the oiled zone changed at the same rate as those in the unoiled zone. We will also examine overall population trends for the Sound from 1989-2005. Due to the lack of data prior to the Exxon Valdez oil spill, continued monitoring of marine birds and sea otters is needed to determine whether populations injured by the spill are recovering. Data collected in 2000 indicated that bald eagles (Haliaeetus leucocephalus) are increasing in winter and summer throughout Prince William Sound, harlequin ducks (Histrionicus histrionicus) are increasing in the oiled area in winter, and black oystercatchers are increasing throughout Prince William Sound in summer. Numbers of all other injured species are either not changing or are declining in the oiled area. Common loons (Gavia immer), cormorants (Phalacrocorax spp.), and common murres (Uria aalgae) are showing no trend in the oiled area; pigeon guillemots (Cepphus columba) and marbled murrelets (Brachyramphus marmoratus) are declining in the oiled areas of Prince William Sound and Kittlitz's Murrelet (Brachyramphus brevirostris) is declining throughout Prince William Sound. Results of these surveys up through 1998 have been published by Irons et al. (2000) and Lance et al. (2001). Analyses of these survey data are the only ongoing means to evaluate the recovery of most of these injured species. A final report will be written upon completion of the project that will address population status of species observed during the survey.

Scientific and Technical Advisory Committee Comments:

The proposal is recommended for funding. The proposal is a straightforward continuation of a well-proven and valuable survey of marine birds and marine mammals (e.g. sea otters) within PWS. Previous surveys have been conducted and the authors demonstrate the increasing level of statistical confidence to detect change that results from each previous and the proposed survey. Power to detect change, assuming a constant pattern of change, is reaching useful levels >70%. With the addition of the 2005 survey, a much better assessment of not only recovery status but also required survey frequency into the future can be gained. The project is cost-effective for the spatial and species extent for which data will be obtained. Additional information on abundance trends in injured species is particularly useful during implementation of the GEM Program, as it aids in design of the monitoring program.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:
Concur with the STAC recommendation.

Science Director Recommendation: Fund

Public Advisory Committee Comments:
Concur with the STAC recommendation.

Public Advisory Committee Recommendation: Fund

Executive Director Comments:
Concur with the STAC recommendation.

Executive Director Recommendation: Fund

Trustee Council Comments:
Not Available

Trustee Council Decision: Fund

Project Number: **050742**

Project Title: **Monitoring of Killer Whales in PWS/Kenai Fjords in 2005-2007**

Principal Investigator: Craig Matkin

Affiliation: Private Enterprise

Disbursing Agency: NOAA

Project Location: PWS, Kenai Fjord

Project Type: New

Funding Approved by Fiscal Year:

FY05: $20,500.00	**FY06:** $22,300.00	**FY07:** $23,800.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $66,600.00

Abstract:

This project continues monitoring of the damaged resident AB pod and other resident pods and the petitioned as depleted AT1 transient population into a cooperative program with additional collaborative support from the Alaska Sea Life Center, NMFS, and various foundations. Monitoring has occurred on a yearly basis since 1984 and was crucial in evaluating the continuing effects from the oil spill. In addition, the role of killer whales in the nearshore ecosystem and possible effects on sea otters will be examined. Community based initiatives such as Youth Area Watch and tour operator educational programs will be integrated. New techniques such as lipid fatty acid analysis for food habit study and radio tagging will be explored and contaminant monitoring will continue. The proposed work will augment current research directed at transient killer whales (ASLC) and provide for annual monitoring of the AB pod and other resident pods. The project will be integrated with oceanographic monitoring as possible.

Scientific and Technical Advisory Committee Comments:

This proposal is not recommended for funding. It is premature with respect to the development of GEM monitoring programs in the ACC and the nearshore, since it has not been determined how monitoring of higher vertebrates will be accomplished. Other agencies, and particularly National Marine Fisheries Service, appear to have management responsibility for this species. It therefore appears appropriate to other funding sources such as activities associated with implementation of the Marine Mammal Protection Act. This proposal was not recommended for funding by the STAC last year for the same reasons.

Scientific and Technical Advisory Committee Recommendation: Do Not Fund

Science Director Comments:

The GEM Program was structured around four habitat types (Watersheds, Nearshore, Alaska Coastal Current and Offshore) in part in order to avoid conflicts and competitions for funds among geographic localities and among advocates for individual species. Funding work on killer whales is not consistent with the lack of Council funding for abundance surveys on other injured species, such as harbor seals. The EVOSTC has the guiding principles of avoiding duplication of effort and not taking over the responsibilities of other government institutions. As a number of different government entities have mandates and budgets devoted to measuring abundances of charismatic megafauna, as well as economically important species, Council funding for continued work on killer whales is not a priority.

Science Director Recommendation: Do Not Fund

Public Advisory Committee Comments:

Members of the PAC expressed a split view with support for both the STAC and the Executive Director recommendations.

Public Advisory Committee Recommendation: No Consensus

Executive Director Comments:

Although the STAC and Science Director rationales are correct, they fall short by not taking into account the continuing strong public interest in killer whales as a species injured by the Exxon Valdez Oil Spill. In addition, the proposed work is already highly leveraged by funding from the appropriate management agencies and other federal sources, so the STAC recommendation of alternate funding sources already has been accomplished by the project. As also noted last year, the modest cost of this project is a small price to pay for continuing a long-time series on an oil-injured species.

Executive Director Recommendation: Fund

Trustee Council Comments:

Not Available

Trustee Council Decision: Fund

Project Number: **050778**

Project Title: **Identify and Evaluate Oil Remediation Technologies Applicable to Lingering Oil in PWS, Alaska**

Principal Investigator: Jacqueline Michel

Affiliation: Private Enterprise

Disbursing Agency: NOAA

Project Location: Prince William Sound

Project Type: New

Funding Approved by Fiscal Year:

FY05: $49,100.00	**FY06:** $0.00	**FY07:** $0.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $49,100.00

Abstract:

Based on studies conducted in 2001, there are 7.8 hectares containing an estimated 56,000 kilograms of subsurface oil in Prince William Sound. This lingering subsurface oil is the source of bioavailable material that continues to threaten sensitive resources. This study will answer the following question: “Is there a clean up strategy that can feasibly be implemented for subsurface oil in Prince William Sound that would be better than natural recovery?” The study objective is to determine if there are feasible, effective, and environmentally sound cleanup methods that can speed the removal of subsurface oil over that of natural recovery. A systematic evaluation of feasible cleanup methods will be conducted, using criteria based on effectiveness, implementability, operational considerations, and costs. The methods that are of highest feasibility will be further evaluated so as to assess the likely environmental impacts and benefits of remediation, including natural recovery, and the associated costs.

Scientific and Technical Advisory Committee Comments:

This proposal is recommended for funding. This is an extremely well-written and excellent proposal with a solid approach to the existing information through the literature and in using extant unpublished data on oil composition. It also directly draws on the experience of both Dr. Michel and Dr. Short, two of the most knowledgeable and skilled people with regards to suburface oil in PWS. Dr. Michel has laid out a clear path as to how she can answer the question asked by EVOS by applying a systematic approach to evaluating the effectiveness and risk of various cleanup technologies. She also provides specific examples of factors to be considered and matrix analyses. This is a highly defensible approach using established NOAA methods. There will also be solid products in the final report and a publishable manuscript. The principal investigator is extremely well qualified to do the work. Dr. Michel has experience working in PWS and around the world. She is well known and has an excellent reputation. Furthermore, there is an in-kind match from RPI and NOAA. Perhaps a little less field work is necessary to reanalyze what has been already been done by Dr. Short, but this is a good deal for $50K.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:
Not Available

Public Advisory Committee Recommendation: Fund

Executive Director Comments:
Not Available

Executive Director Recommendation: Fund

Trustee Council Comments:
Not Available

Trustee Council Decision: Fund

Project Number: **050758**

Project Title: **Management Applications: Implementing the SEA Pink Salmon Survival Model - Tagging Technology**

Principal Investigator: Steven Moffitt

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: Prince William Sound

Project Type: New

Funding Approved by Fiscal Year:

FY05: $18,900.00	**FY06:** $0.00	**FY07:** $0.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $18,900.00

Abstract:

This project will conduct tagging technology studies needed to develop management applications from the SEA pink salmon model. This project was conceived during a pink salmon predictive workshop recently held in Cordova March 16-18, 2004. Workshop participants recommended that preseason forecasting and numerical model validation could be approached by a direct census of juveniles as they are leaving Prince William Sound (PWS). Catching juveniles emigrating from PWS would also enable application of a second mark to partition survival between the early marine and oceanic lifestages. At present, all juveniles of hatchery origin in PWS are otolith thermal marked. Combining estimates of stock composition obtained from otolith thermal marks and early marine survival will enable estimation of survivals of each hatchery release group and a very robust evaluation of pink salmon model simulations. The estimates will also be used to evaluate the accuracy of preseason forecasts of salmon run size obtained from a direct census of juveniles emigrating from PWS. This project will test the feasibility of using passive integrated transponder tags to partition early marine and oceanic survival of pink salmon. The project will estimate tag loss and tagging-induced mortality of juvenile pink salmon and tag detection rates at area salmon processors.

Scientific and Technical Advisory Committee Comments:

This proposal is recommend for funding. The proposal would provide an important measure to the modeling program, an estimate of the estuarine survival of pink salmon. As a forecast tool, the measure would also have fishery management applications. In addition, it would advance the use of an important tagging technology in Alaska by creating a base of knowledgeable individuals who could transfer the technology to other areas.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Concur with the STAC recommendation.

Science Director Recommendation: Fund

Public Advisory Committee Comments:

Concur with the STAC recommendation. The PAC wants question of timing for insertion of tags in young fish and then counting tagged fish addressed in the work. Is another year needed for the project to capture same year class?

Public Advisory Committee Recommendation: Fund

Executive Director Comments:
Concur with the STAC recommendation.

Executive Director Recommendation: Fund

Trustee Council Comments:
Not Available

Trustee Council Decision: Fund

Project Number: **050769**

Project Title: **Temporal Stability of Fatty Acids used to Discriminate Pacific Herring in Alaska**

Principal Investigator: Edward (Ted) Otis

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: Gulf of Alaska and Bering Sea

Project Type: New

Funding Approved by Fiscal Year:

FY05: $67,700.00	**FY06:** $89,400.00	**FY07:** $25,100.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $182,200.00

Abstract:

This project follows up on a promising pilot study that demonstrated the ability to discriminate Alaska herring stocks at relatively fine spatial scales (> 100 km) based on the fatty acid composition of their heart tissue. The investigators propose to assess the temporal stability and biological variability of stock discrimination criteria derived from fatty acid analysis of herring cardiac tissues. Samples will be collected during the spring and fall/winter of 2005 and 2006 from putative herring stocks from Sitka, PWS, Kamishak, Kodiak, Dutch Harbor, Togiak, and Kuskokwim Bay. Results should allow managers to better define ecologically significant stock boundaries, which would likely affect how commercially exploited herring populations are assessed and managed. Results will be published in a peer-reviewed report and may lead to revision of fishery management plans for affected areas. Keywords: Pacific herring, stock identification, fatty acid analysis, Gulf of Alaska

Scientific and Technical Advisory Committee Comments:

If this project were successful, the results would be highly advantageous to management of herring stocks in Alaska. The proposal is highly leveraged as it depends heavily on ADF&G platforms and existing data collection programs and thus is quite cost effective. Nonetheless, a positive recommendation can not be given until there is scientific peer validation of the method. Other methods such as molecular genetics may work as well and should be addressed as alternatives in any subsequent proposal.

Scientific and Technical Advisory Committee Recommendation: Do Not Fund

Science Director Comments:

Concur with the STAC recommendation.

Science Director Recommendation: Do Not Fund

Public Advisory Committee Comments:

Concur with the STAC recommendation; however herring are important to investigate. Encourage the PI to respond to reviewer comments and resubmit the project as a pilot next year. The Trustee Council should encourage herring proposals since this is still an injured species.

Public Advisory Committee Recommendation: Do Not Fund

Executive Director Comments:

Concur with the STAC recommendation and support PAC recommendation by calling for herring workshop as part of re-examining injured species list in FY 2005.

Executive Director Recommendation: Do Not Fund

Trustee Council Comments:

Not Available

Trustee Council Decision: Fund

Project Number: **050794**

Project Title: **PWS Herring Populations: Updated Synthesis on the Causes and Lack of Recovery**

Principal Investigator: Stanley (Jeep) Rice

Affiliation: NOAA

Disbursing Agency: NOAA

Project Location: Synthesis; no field work, but populations from Alaska to California will be used.

Project Type: New

Funding Approved by Fiscal Year:

FY05: $101,240.54	**FY06:** $30,783.56	**FY07:** $0.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $132,024.10

Abstract:

This project will update the synthesis by Carls et al. (2002), from an oil/herring interaction perspective, but also from the perspective of "uniqueness." Are the PWS herring unique in their population collapse and lack of recovery? This synthesis will conduct comparison population dynamics modeling of PWS and Alaska herring stocks, as well as other stocks throughout the West Coast, including some stressed stocks. Disease information will be updated, and will include 2 years of data not previously published. The synthesis will focus on uniqueness of the PWS herring stocks (or not) relative to oil, disease, recruitment success, and will also examine the ability of the stock to be resilient through genetic diversity. The potential of different restoration or mitigation strategies will be investigated.

Scientific and Technical Advisory Committee Comments:

Not Available

Scientific and Technical Advisory Committee Recommendation: Not Available

Science Director Comments:

Not Available

Science Director Recommendation: Not Available

Public Advisory Committee Comments:

Not Available

Public Advisory Committee Recommendation: Not Available

Executive Director Comments:

Not Available

Executive Director Recommendation: Not Available

Trustee Council Comments:
Not Available

Trustee Council Decision: Fund

Project Number: **050759**

Project Title: **Harlequin Duck Populations Dynamics in PWS: Measuring Recovery**

Principal Investigator: Dan Rosenberg

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: Prince William Sound

Project Type: New

Funding Approved by Fiscal Year:

FY05: $39,900.00	**FY06:** $0.00	**FY07:** $0.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $39,900.00

Abstract:

This project will address the effects of lingering oil in nearshore habitats of Prince William Sound on populations of harlequin ducks. We will also address GEM objectives for long-term monitoring of harlequin and other sea duck species. We will conduct winter boat surveys to test if harlequin ducks have recovered from the effects of the EVOS by comparing population structure and trends between oiled and unoiled treatments in four areas (2 oiled, 2 unoiled) of PWS. Similar structure and trends between oiled and unoiled areas will indicate populations have recovered or are in a position to recover. Work will be complimentary to studies addressing cytochrome P450 induction and over winter survival of female harlequin ducks to give a complete picture of the effects of lingering oil. We will also test for geographic differences in population structure and trend for oiled and unoiled treatments. This is a continuation of surveys begun in 1997. Up to 3 years of surveys are proposed with the results of each year determining the need for continuation.

Scientific and Technical Advisory Committee Comments:

The proposal is recommended for funding. The harlequin duck is an injured species of special concern due to evidence of continuing exposure to oil contamination resulting from the 1989 spill. Its status as an injured species is based in part on trends in abundance in oiled and unoiled areas, which this proposal will address. The proposal would continue a valuable time series of abundance that would minimize the equivocal nature of various harlequin duck data sets relative to population status and recovery. The additional surveys over time can both increase power to detect change and extend the value of time post-spill series for understanding status of the injured species. The project is highly cost effective, has well respected investigators, and should result in valuable information. Given the specific sampling requirements to properly survey harlequin ducks, it seems appropriate that a specific survey is required above, and complementary to, the more general marine bird survey proposed by Irons. The STAC points out that it strongly supports projects such as this one that are aimed at demonstrating statistically that they are no longer necessary.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Concur with the STAC recommendation.

Science Director Recommendation: Fund

Public Advisory Committee Comments:
Concur with the STAC recommendation.

Public Advisory Committee Recommendation: Fund

Executive Director Comments:
Concur with the STAC recommendation.

Executive Director Recommendation: Fund

Trustee Council Comments:
Not Available

Trustee Council Decision: Fund

Project Number: **050764**

Project Title: **ShoreZone Mapping for Kodiak Island**

Principal Investigator: Susan Saupe

Affiliation: Private Enterprise

Disbursing Agency: NOAA

Project Location: Kodiak Island Archipelago

Project Type: New

Funding Approved by Fiscal Year:

FY05: $201,300.00	**FY06:** $201,900.00	**FY07:** $0.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $403,200.00

Abstract:

This project would complete a Kodiak ShoreZone mapping program initiated in 2002 by the EVOSTC and the Cook Inlet RCAC by mapping the rest of the Kodiak Island archipelago following the existing Alaska ShoreZone Mapping Protocols (Harper and Morris 2003). Aerial video imagery (AVI) would be collected in two 6-day surveys and would be the primary source for completing the subsequent biophysical mapping database of intertidal and shallow subtidal areas. These data will complement the 1600 km of existing mapping on Kodiak and the 7000 km so far within the GEM area. In addition to the agency and researcher support that ShoreZone has gained in Alaska--- most specifically to provide needed GEM-area habitat data---there was significant community support for completing the coastal mapping shown during a recent workshop (15 March 2004) in Kodiak when the ShoreZone mapping data and products completed to date were described and demonstrated.

Scientific and Technical Advisory Committee Comments:

The proposal is recommended for funding. This proposal is well written, stating clear objectives, methods and expected accomplishments. The principle investigators are the best qualified to undertake this, as they have been involved in all aspects of the shore-zone mapping projects that have been finished to date. Saupe has secured considerable amounts of funds from sources outside EVOSTC to make this broad-scale mapping one the heaviest leveraged to date. This proposal comprehensively addresses the need for an accessible database, and presents the format of it. Furthermore, the PIs have presented extremely successful workshops over the past year that were attended by resource agency personnel, local citizens and other user groups such as the US Coast Guard. The data are on a user-friendly website that can be accessed readily. In short, there is no doubt that these PI's can produce what they promise, and on time, as evidenced by their strong track record of doing so. This is a one-time project that will not have to be repeated for another 10-25 years and is an excellent investment as it will serve as a basis for all future nearshore and watershed projects. Outside reviews were overwhelmingly positive.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Concur with the STAC recommendation.

Science Director Recommendation: Fund

Public Advisory Committee Comments:
Concur with the STAC recommendation.

Public Advisory Committee Recommendation: Fund

Executive Director Comments:
Concur with the STAC recommendation.

Executive Director Recommendation: Fund

Trustee Council Comments:
Not Available

Trustee Council Decision: Fund

Project Number: **050763**

Project Title: **Long-term Monitoring of Anthropogenic Hydrocarbons in EVOS Region**

Principal Investigator: Jeffrey Short

Affiliation: NOAA

Disbursing Agency: NOAA

Project Location: PWS, Kodiak, Kenai Peninsula

Project Type: New

Funding Approved by Fiscal Year:

FY05: $58,900.00	**FY06:** $58,900.00	**FY07:** $58,900.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $176,700.00

Abstract:

This proposal seeks support to expand the Long Term Environmental Monitoring (LTEMP) of the Prince William Sound Regional Citizens' Advisory Council (PWSRCAC) in a manner that will make it substantially more powerful in its ability to detect environmental changes induced by petroleum contamination, and possibly other contaminants that have recently been identified as potential insults to the region. This expansion is designed to address the needs of both the PWSRCAC and the GEM programs, in part by combining resources of both organizations. The proposed design incorporates and integrates the existing NOAA and LTEMP monitoring datasets, and proposes a modest enlargement of effort to monitor at a substantially larger spatial scale. Most of the expansion is intended to implement a random-sampling based design that is currently being developed under an FY2004 Trustee Council funded project (Trustee Project 040724: Short - FY04 - Monitoring Exxon Valdez Oil).

Scientific and Technical Advisory Committee Comments:

The proposal is recommended for funding. It is a good fit to the Invitation under Lingering Oil and Nearshore development of standard operating procedures (SOP). It also complements and would directly utilize the results of current GEM Lingering Oil study: Short - FY04 - Monitoring Exxon Valdez Oil (040724). The FY 04 study is designed to provide recommendations on how to integrate monitoring for the lingering effects of the Exxon Valdez Oil Spill into GEM Nearshore monitoring programs. The proposal responds directly to the Science Plan (Establish a strategy for monitoring persistence of Exxon Valdez oil, and its relationship to other sources of contamination in PWS) by establishing a background hydrocarbon reference station at Hinchinbrook Entrance and by developing a random sampling approach that would serve as a proxy measure for human development pressure on the nearshore environment. The random sampling approach would simultaneously track the persistence of lingering oil from the EVOS, and serve as a large geographic scale monitoring "station" reflecting human development pressure over a long time scale. The technical merit of the sampling protocols and laboratory analyses is established by adopting the methods of the long-established Long Term Environmental Monitoring Program (LTEMP).

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Concur with the STAC recommendation. This proposal makes the lingering oil investigations an integral part of the GEM Nearshore Program.

Science Director Recommendation: Fund

Public Advisory Committee Comments:
Concur with STAC and Science Director recommendations.

Public Advisory Committee Recommendation: Fund

Executive Director Comments:
Concur with STAC and Science Director recommendations.

Executive Director Recommendation: Fund

Trustee Council Comments:
Not Available

Trustee Council Decision: Fund

Project Number: **050765**

Project Title: **Management Applications: Improving Preseason Forecasts of Kenai River Sockeye Salmon Runs through Smolt Monitoring - Technology Development**

Principal Investigator: T. Mark Willette

Affiliation: State Of Alaska

Disbursing Agency: ADFG

Project Location: Cook Inlet

Project Type: New

Funding Approved by Fiscal Year:

FY05: $68,800.00	**FY06:** $65,900.00	**FY07:** $67,000.00
FY08: $0.00	**FY09:** $0.00	**FY10:** $0.00

Total Funding Approved: $201,700.00

Abstract:

This project will develop and implement a smolt-monitoring program for Kenai River sockeye salmon as a tool for managing one of the largest and most accessible salmon stocks in Upper Cook Inlet. Sockeye salmon smolt population estimates will be used to develop preseason forecasts of run size for this stock. The Alaska Board of Fisheries has specified that the Kenai River sockeye salmon run will be managed based upon preseason and inseason forecasts of run strength, and inriver escapement goals for this system vary as a function of these forecasts. This management structure causes relative uses of the resource by recreational, personal use, and commercial fishers to be strongly dependent on the accuracy of forecasts. The project will use two independent methods to estimate the population size of sockeye salmon smolt emigrating from the Kenai River watershed. GEM funding is requested to support estimation of smolt population size using mark-recapture methods. ADF&G funding will support estimation of smolt population size using side-looking sonar. During the first two years of the project, we will evaluate the accuracy and precision of our estimates and identify the methodology that provides the best estimate at the lowest cost. In the third year, we will implement this new method to estimate smolt population size. The project will also estimate the proportion of marine-derived elements in smolts, beginning a database needed to evaluate the effect of marine nutrient contributions on salmon production in this and other systems.

Scientific and Technical Advisory Committee Comments:

The proposal is recommended for funding. The proposal responds to the management application section of the invitation call to “utilize or augment existing biological monitoring programs to develop a new application or enhance an existing application to management, while building the basic data to implement the GEM ecosystem model.” It is responsive to the science plan call to, “identify and demonstrate statistically rigorous sampling strategies for detecting marine signals and proxies from plants and animals in the marine watersheds …” Technical merit of this proposal is very high, as it adequately copes with the formidable difficulties of estimating smolt abundance in the Kenai River; as the proposal notes, estimation of smolt abundance in the Kenai has failed in the past. The proposal demonstrates a thorough understanding of the challenges, and it proposes an adaptive and innovative strategy for meeting the challenges, using a variety of sampling techniques at a number of different locales in the watershed. Potential management applications are substantial and include 1) predictors of future adult salmon returns allowing more responsive management to assure sustainable escapements while optimizing harvest opportunities, 2) using juvenile production as an indicator of freshwater ecosystem health, 3) identification and control of factors that influence salmon population trends, 4) use of marine survival information to further explain causes and variability in salmon population trends, and 5) recovery of tagged adult Chinook and coho salmon during their ocean migration to provide location and interception information to aid in interpretation of the effect of ocean and climate on marine survival of salmon and related species. Community involvement strategies are apparent but not well explained. The proposal is responsive to all five of GEM’s major goals, providing data and analysis relevant to detecting and understanding change in

watersheds, informing managers and other interested parties about impending changes in natural resources, solving resource management problems with appropriate information, and predicting future states of natural resources. The proposal is also particularly responsive to two of the six “implementation” goals of GEM, because it leverages application of EVOSTC funds to augment ongoing monitoring work funded by ADF&G, and it would facilitate application of GEM research and monitoring results to benefit conservation and management of marine resources, as explained under management applications above. The budget is highly leveraged by funds from ADF&G sources and it is reasonable for the proposed objectives. The PIs are exceptionally well qualified to do this type of work, and their salaries are not charged for in the budget, which includes only extra seasonal personnel costs. The proposal was exceptionally well written and the methods and limitations of the sampling gears were carefully explained.

Scientific and Technical Advisory Committee Recommendation: Fund

Science Director Comments:

Concur with the STAC recommendation. This proposal is a strong response to the management applications section of the invitation.

Science Director Recommendation: Fund

Public Advisory Committee Comments:

Concur with the STAC and the Science Director recommendations; however the proposal needs to make better connections with the communities it serves. In particular the ADF&G Regional Planning Team and the regional aquaculture associations have relevant information to share and interests in the outcome of the work and they should be consulted.

Public Advisory Committee Recommendation: Fund

Executive Director Comments:

Not Available

Executive Director Recommendation: Fund

Trustee Council Comments:

Not Available

Trustee Council Decision: Fund